

# EXHIBIT 9

IN THE PATENTS COUNTY COURT  
[2005] EWPCC ( )

Claim No: PAT 04022



**Before: His Honour Judge Fysh QC**

BETWEEN:

LG.PHILIPS LCD CO. LTD Claimant

and

(1) TATUNG (U.K.) LTD  
(2) VIEWSONIC EUROPE LTD.  
(3) NUMBER ONE SERVICES LTD Defendants

**JUDGMENT**

*Michael Tappin*, instructed by *Simmons & Simmons*, appeared for the Claimant.  
*Richard Meade*, instructed by *Wragge & Co*, appeared for the Defendants.

Dates of hearing: 15, 16 and 19-22 September and 28 November 2005

This judgment is in final form and will be treated as authentic.

*Michael Fysh*  
28/11/05

## Judgment

### *Introduction*<sup>1</sup>

- 1 This is a patent infringement action with a counterclaim for revocation of the patent . The patent, No 2346464 ('the Patent'), stands in the name of the claimant, a Korean company, LG. Philips LCD Ltd. I shall refer to the claimant (for whom Mr Michael Tappin appeared), as 'LG'. The date of filing of the Patent was 23 October 1999. The Patent is entitled '*Portable Computer*' but this is a misnomer. The claims, which are all product claims, cover items used not only in portable computers but also in display monitors (and possibly other devices) which make use of flat panel display systems. Moreover the Patent actually concerns a way of *mounting* flat panel display devices into housings, the combination being subsequently incorporated into devices of this type.
- 2 There are three defendants (who are independent of each other) for whom Mr Richard Meade appeared. The first defendant is Tatung (UK) Ltd ('Tatung') who has admittedly sold one of the alleged infringements-a 15" LCD CCTV Monitor ('the CCTV monitor'). Another defendant is ViewSonic Europe Ltd ('ViewSonic') who it is agreed, has imported and sold a ViewSonic VX 2000 TFT 20" LCD desktop computer monitor ('the VX2000 monitor'). Its distributor is the third defendant, Number One Services Ltd. ViewSonic has accepted liability (if any) for the acts of its distributor who has played no part in these proceedings. Though the infringements are different, I have often referred to the defendants simply as 'Tatung', where the context admits.
- 3 Infringement was denied and in their counterclaim, Tatung and ViewSonic have attacked the validity of the Patent on the grounds of anticipation , obviousness and insufficiency. Six items of prior art were relied upon, four patents and two monitors which were alleged to be prior uses. The patents were as follows:
  - (i) US patent 5, 119, 204 ('Hashimoto')
  - (ii) US patent no 5,570, 267 ('Ma')
  - (iii) Japanese Patent appn no 09- 190156 ('Fujitsu 156')
  - (iv) Japanese patent appn. 09-171358 ( 'Fujitsu 358').

The case on the two Fujitsu citations was virtually identical. The two prior art monitors pleaded were

- (i) A PixelVision monitor, and
- (ii) A Tatung L4KAS monitor

Examples of these monitors were in court. By the time of trial, the L4KAS monitor was no longer relied upon.

- 4 LG has denied that there had been an enabling disclosure of the PixelVision monitor before the priority date and evidence on this topic was given by video link at the Royal Courts of Justice. A Mr Stuart Morgan<sup>2</sup> from Cincinnati, Ohio was cross-examined on this topic and

<sup>1</sup> I have referred to papers in the Court bundle by volume, divider and (where necessary ) by paragraph: thus 4/1/§8. Transcripts are identified by day and page thus: D2/56

<sup>2</sup> Who I believe was responsible for the PixelVision monitor.

as a result, I am satisfied that the PixelVision monitor was indeed made available to the public before the priority date. I go further: I feel that this was an exercise which could and should have been sorted out before trial. For present purposes however, I need say no more about the matter. I should also say that the ground of insufficiency was not developed at trial. In essence, this case has provided a good example of the dynamic of traditional infringement/validity 'squeeze' in a patent infringement action.

- 5 As noted, there has also been an application by LG to amend the Patent 'to distinguish the invention of the Patent more clearly' from most of the prior art citations mentioned in § 3 above<sup>3</sup>. This application has been opposed by the defendants on two grounds: disclosure of added matter and lack of clarity. It is important for LG to secure the amendments since I was told by Mr Tappin that in the event that the more important amendments were not allowed, the action would fail. I have therefore proceeded on the following basis. I have first considered the Patent and associated general topics (principally common general knowledge, the state of the art and the skilled addressee). Then I have considered the allowability of the amendments. Thereafter I have considered construction, infringement and validity on the basis of the Patent as proposed to be amended. In this, I have followed the course of action taken by counsel.
- 6 I was told that parallel proceedings involving some of the present litigants are afoot in the USA and that Tatung's expert witness, a Mr Mark Brinkerhoff, is involved in those proceedings. Mr Brinkerhoff was asked some questions about his involvement in this litigation but nothing of sufficient importance has come of it to warrant further comment.

### ***Some Introductory Technical Background***

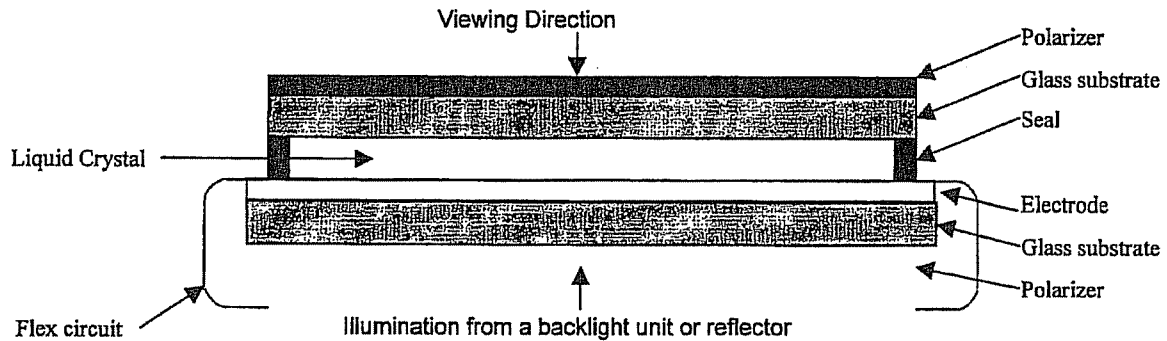
- 7 The Patent is concerned with the mounting of a flat-panel display device within a two part housing. The resulting unit may then be incorporated into various products: a laptop computer for example or it may be fixed to a stand for use as a monitor. Such devices were in common use before the priority date. By the priority date, these devices made use of three quite different technologies so as to create and display the required image: LCDs (liquid crystal displays), PDPs (plasma display panels) and FEDs (field emission displays). The teaching of the Patent is directed to display devices which function in all three ways but the invention is illustrated and discussed in relation principally to LCD displays in laptop (or notebook) computers. Furthermore, certain claims are actually limited to LCD devices alone. In what follows, I too shall confine myself to displays and display devices operating by LCD.
- 8 I should sound a note of caution regarding nomenclature since in this case one has to be most careful about it. Unfortunately, word usage both in the narrative of the Patent, in the cited documents and indeed during the entire course of the case, has not been consistent. The meaning of a number of such words and phrases was very much in issue and later, when I deal with construction, I shall return to argument on the matter. For the moment however I shall briefly describe the major components of the hardware involved taking a computer monitor as an example and starting from its outside.

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<sup>3</sup> 4/2/§4

- (i) The monitor has a two-part cover called a *display case* which consists of a square or rectangular front (with a bezel through which the display may be viewed) and a corresponding solid rear which forms the entire back of the *display case*. From time to time the two parts are also called *front* and *rear frames*. They are also called  *housings*.
  - (ii) Let us next open up and detach the display case of the monitor. One now sees the two housing parts. The front frame or housing is usually attached directly to the rear housing. Next, the operative heart of the monitor is also visible. It has the appearance of a solid, thin, rectangular slab, and is attached to the rear housing and fits within it. It is called (in this instance) the *LCD module*, the *LCD display device*, or simply, the *device*. Workers in this field (and the experts in this case) usually refer to it as the 'module' -and so shall I. It has electrical connections at its sides so that video signals from a computer or CCTV for example can be fed into it. The mounting of the module to the display case is at the heart of the Patent.
  - (iii) An *LCD module* is an assembly of sub-units which have been sandwiched together within a peripheral *supporting frame* (or frames). The result is the thin square or rectangular slab-like unit previously referred to. I shall describe how the module works below.
  - (iv) The *module* and both parts of the  *housings* have provision for mutual fixing.
  - (v) The *display* ie what the viewer sees in the *display area*, is created within a *glass*, the latter being part of the 'sandwich' mentioned above. This is made visible in the case of an LCD module using a '*backlight unit*'. '*Glass*' is the term used by the experts (though it is not used in the Patent) no doubt because the item is largely made of glass. In the narrative of the Patent, this item is always called the *LCD panel*.
  - (vi) The *glass* as manufactured consists of two areas: a larger central area wherein the *display* is created electrically and a lesser peripheral area surrounding it which is inactive and with the supporting frame, is located under the bezel but is invisible to a person viewing the display.
9. I should say this about LCD modules. At all material times, these items were almost always bought in by (for example) computer manufacturers, ready- made, from module manufacturers (of which there were quite a few by the priority date). They were made to different sizes and configurations appropriate for their intended application. From the evidence, I accept that at the priority date end users in practice got what the manufacturers had available and not necessarily what they might have wished for; they adapted to what was most suitable to their requirements from the manufacturers' repertoire. For this reason, designers of commercial end products of the kind in issue seem to have had little control over the design of the LCD modules they used. This fact will be of some importance in relation to the evidence on validity. Mr Tappin has advanced a '*Dyson-style mindset*' argument as an antidote to the case on obviousness, his expert a Mr Nicholas Talesfore, saying that at the priority date, when it came to LCD modules, designers of end products never really thought beyond what the manufacturers had available. Such thinking said Mr Meade was certainly not due to 'mindset' in the industry; mindset is a mental affliction whereas component availability is not. I shall have to deal with this later.

10 Illustrated below is part of an LCD *panel* or '*glass*' in cross-section:



The following is an agreed description of how an LCD module (panel/glass and backlight) works<sup>4</sup>:

- (i) The Liquid Crystal section is a fluid layer sandwiched between two glass substrates. The lowermost glass substrate is provided with an electrode grid. An image is created by applying electric voltage across the electrode grid via the Flex Circuits that are at the edge of the glass. The voltage orientates the liquid crystals into a desired pattern. The Liquid Crystal panel thereby provides a matrix of very small dots or pixels that are used to form a pattern. There are two polarizers permitting light to pass in a particular orientation. An image is viewable through the upper polarizer, depending on the orientation of the crystals at individual pixels. The image is visible to the human eye, once illuminated from the rear. (NB. There is no creation of light in the above process, merely transmission.). The lowermost polarizer provides a desirable orientation of the light beams for illumination (whether ambient or backlight).
- (vii) The rear illumination could be provided either by a reflector or by a "backlight unit" although a backlight unit is the more common form of rear illumination in larger applications such as monitors, notebook computers or televisions. A backlight unit or a reflector is typically provided with the LCD panel as described above packaged as a single item. An example of an application that uses both methods is a digital watch – when used in lighted conditions the readout is visible via the reflective process but when viewed in dark conditions the user switches on a backlight device contained within the watch to enable visibility of the readout.

### ***The Patent***

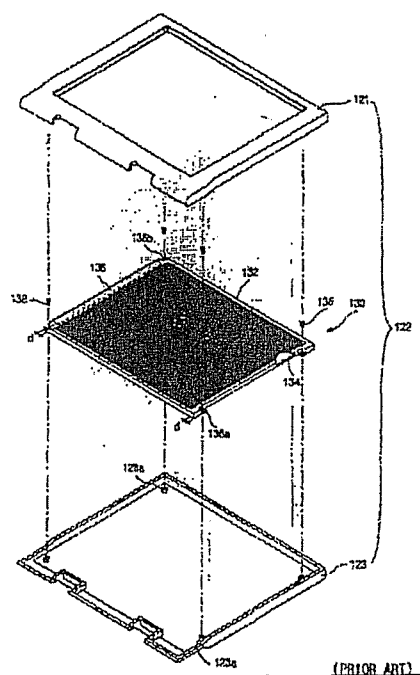
11. No doubt because the Patent has been drafted in 'problem and solution' form, LG devotes an introductory section (and some of the attached diagrams) to the prior art. This section describes an LCD module mounted in a two part housing for use in a laptop computer.

<sup>4</sup> The preceding diagram was also agreed.



The module is there called 'a flat panel display device assembly'. The display case becomes the upper part of a two-part folding laptop computer.

12. Prior art methods of creating the display case are illustrated in figures 1, 2 and 3 but the salient point for the purpose of understanding the invention can best be picked up from Figure 2 which is reproduced below.



13. Using the nomenclature of the Patent, the display case 122 consists of two parts: a rear case or frame (123) and a front case or frame 121. The rear frame is solid having connecting ribs 123a at its corners for connecting the LCD module 130 to it. Looking next at the LCD module, this consists of three parts: the LCD 'panel' 132<sup>5</sup>, a backlight device 134 fixed to the back of the LCD panel and a supporting frame 136 'for assembling the panel 132 and the backlight device 134 along the edge'. At the corners of the supporting frame 136 corresponding to the position of the ribs 123a in the case, a 'plurality of protrusions 136a having holes are formed'. Note the small lateral dimension 'd' of the fixing flange.
14. In the so-called 'front mounting method', an LCD module 130 is placed on the rear case 123 and screwed to it via the protrusions 136a, the screws going from front to back. Thereafter 'the front case 121 is coupled to the rear case 123'. The narrative continues:

'In the front mounting structure of the LCD device, since the protrusions 136a require *additional space corresponding to the protruded width d*, the display area of the LCD device is reduced in comparison to the *fixed* size of the case 122.' (p. 2, 113-15).[Emphasis added]

<sup>5</sup> This is the glass.

Figs 3A and 3B (not reproduced in this judgment) depict another prior art mounting scheme for an LCD module having further (and even more protruding) fixing flanges. The resultant drawback is noted in similar terms;

'Therefore the side space D ...results in a reduction of the display area of the LCD panel 112 relative to the display case 122. Moreover, as the display size increases, the display case becomes undesirably large, especially for a laptop computer...'

15. This is the problem which the Patent is said to overcome. The prior art LCD module is said to require side space leading to a reduction in the *display area* relative to the size of the *display case* in which the *LCD module* is housed. There was thus an excessive 'bezel area' relative to the LCD display area. The patent continues (p3, ll19-20):

'To solve the above problem, and to provide a large display area with minimal display case size, a new mounting structure is needed for the LCD device.'

Later, at the end of the Patent (p14, ll 6-8), there is the following:

'As explained above, the mounting method does not require *unnecessary side space* for mounting the LCD device on the computer. Thus, the ratio of the display area of the LCD device to the display case can be improved and maximised.' [Emphasis added]

The object of the invention is therefore to maximise the *display area* of the *display case*. And how is it proposed that this should be done? Simply by re - positioning the mounting flanges at the side of the module *to the rear of the module*<sup>6</sup>. Mr Tappin accepted that it was the *idea* of making this change which was at the heart of the invention. In response, Mr Meade characterised moving the mounting means to the rear of the module as being trivial in character.

16. Before going on to describe an embodiment of the invention, I should put down two markers:

- (i) It was Mr Meade's submission that the 'problem' associated with protuberant side mounting flanges was one which only affected laptop computers whose available maximum width was in any event limited by the width of the associated keyboard; this was therefore not a problem which affected all monitors. In free-standing monitors, any reasonable size of display could be chosen and tolerated as it did not matter that flanges were hidden under the side bezel. I do not recollect that Mr Tappin answered this observation.
- (ii) The other general point is this: it was common ground that the means of fastening at the rear of the module (such as by screws or detents) is not part of the invention. The actual means of fixing flows uninventively from the idea of re-positioning the fixing means.

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<sup>6</sup> As will be seen, Mr Tappin's location of the fixing means is more narrowly defined. He says 'to the rear of the display' rather than just 'to the rear of the module'. The significance of this will appear later.



17. The invention may be sufficiently appreciated by consideration of the first two embodiments which are shown in Figures 4-7. Further embodiments are described and shown in other figures. It is to be noted that the embodiments of the invention, unlike those of the prior art, are not always shown within the two-part housing for final incorporation into a product such as a computer. First I have reproduced Figures 4A and 4B which show the front and rear of an LCD module in accordance with the first embodiment of the invention. Item 10 in fact is referred to as 'the LCD device' which is what I have called an LCD module. Item 12 is again referred to as 'an LCD panel' (i.e. the glass) which from the viewing direction, is surrounded by 'supporting frame 16'. Another frame called 'the first frame' carries at its corners and to its rear, four screw holes 15 whereby the module may be fixed to the rear part of the housing.

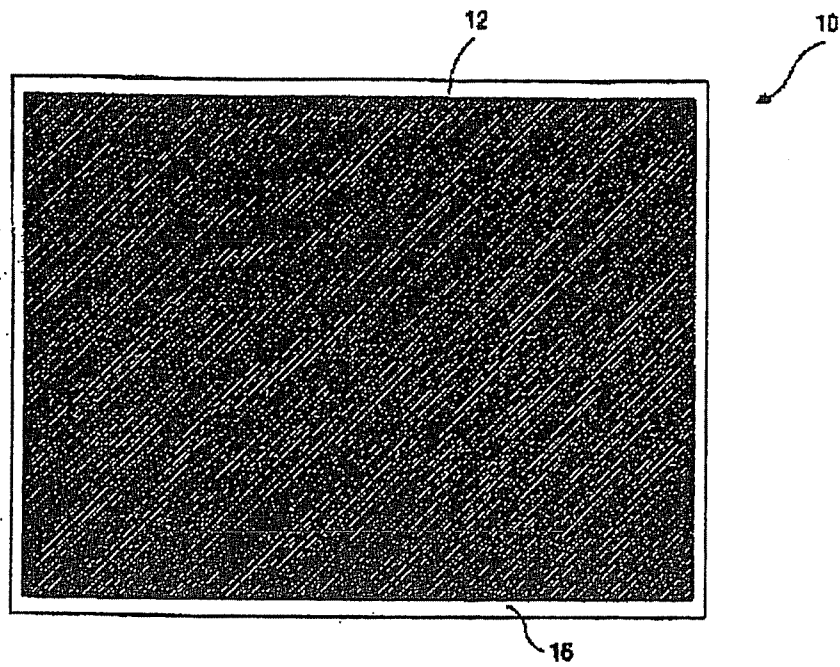


FIG. 4A

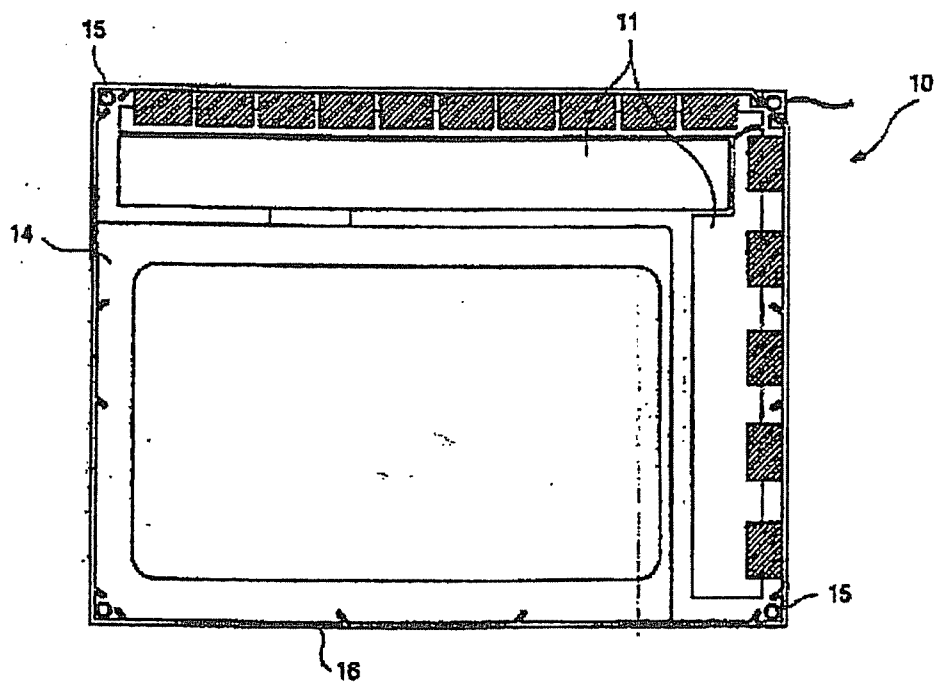
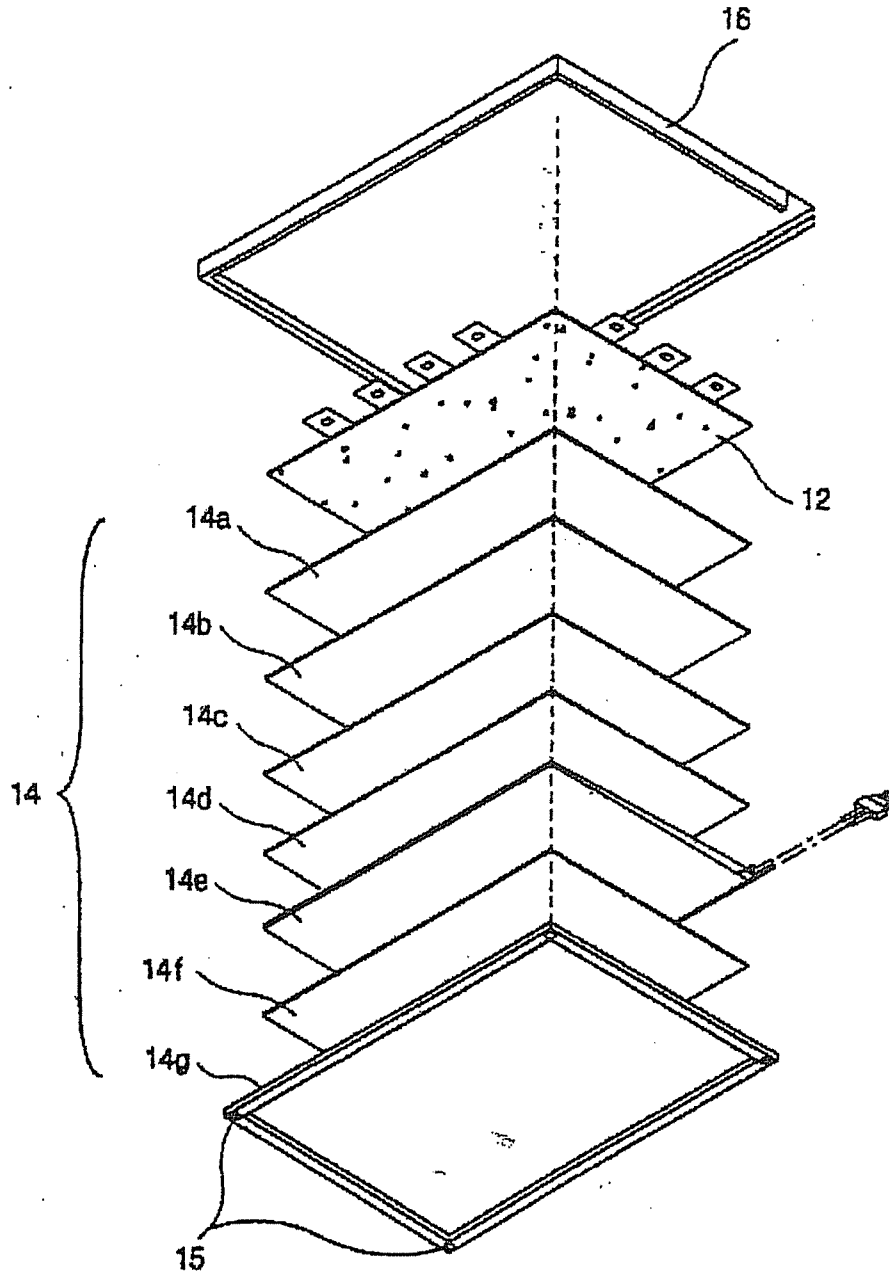


FIG. 4B

18. Figure 4C was the subject of much discussion during the case and may I believe be described as an exploded representation of a conventional LCD module save as to the fixing points<sup>7</sup> (cf. item 130 of the prior art above). The figure is reproduced below.



Items 14 a-f are the customary parts of a backlight unit 14: see § 10 above. The screw holes 15 are again visible at 'each corner of the first frame 14g', the latter being described as forming part of the backlight unit 14. Item 12 is again called the LCD panel and has a number of 'ears' attached to it to provide appropriate electrical connections. These are

<sup>7</sup> It is in fact described in the Patent as 'the LCD device 10' of Figs 4A and B.

folded down when the sub-layers are assembled as a unit. In Figures 4A-C, 16 is described as the 'supporting frame' in the narrative and as 'a second frame' in the claims. It is in fact the bezel for the module and is on the viewing side of the LCD display case. I would add that save for the screw holes 15, the panel and the backlight unit of the invention appear to be structurally and functionally identical to what is described in the prior art.

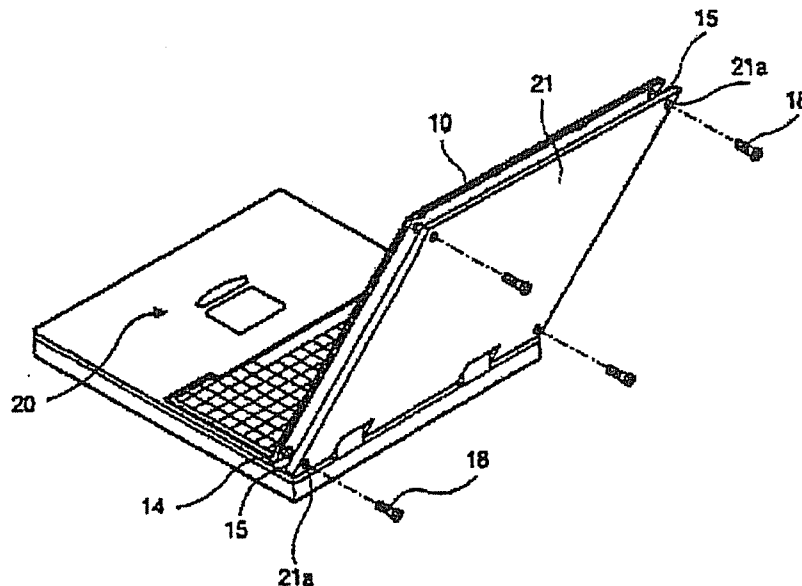
19. The narrative continues:

The first frame 14g is coupled to a second frame or supporting frame 16. At each corner of the first frame 14g a screw hole 15 is preferably formed. Although Fig 4C shows the first frame 14g as part of the backlight unit 14, the first frame 14g can act as the supporting frame 16.

To mount the LCD device 10 to the display case 122 (fig 1)<sup>8</sup> the LCD device is placed on the inner surface of the display case 122. Then the case 122 and the LCD device are attached to one another by bolts 128<sup>9</sup> into the screw hole 15 from the back of the display case 122.

As explained above, the structure shown in Figs 4A-4C has an advantage in that the side space such as width d2 for fixing flange 114a of Fig 3B<sup>10</sup>, is not needed and the size ratio between the display area and the display case 122 is improved.

20. The following figure (Fig 5 in the Patent) shows the assembly of the LCD module 10 into its case 21 in a laptop computer. Case 21 corresponds to the 'rear case' 123 of two-part prior art display case or housing 122: see Fig 2 above. The other numbered items in Fig 5 are I think, self-explanatory.



<sup>8</sup> The prior art drawings must be consulted at the same time. Display case 122 is shown in Fig 2 above. This is the housing which encloses the LCD module

<sup>9</sup> Not shown in Fig 4 but visible in Fig 5 below.

<sup>10</sup> Not shown in the judgment

This diagram does not in fact show the complete display case 122, the front part of the case being missing. For this purpose, the narrative refers back to the housing of the prior art (Fig 2) assembly. Page 10 lines 3-4 reads as follows:

'Although not shown in fig 5, the front case such as shown in Fig 2 is preferably assembled with the case 21 for covering the edges of the LCD device 10.'

The second embodiment of the invention concerns a different type of 'back mounting structure', the other parts being the same as for the first embodiment. Figures 6 and 7 illustrate this for use in the top half of a laptop computer, Fig 6 is a general sectional view in pre-assembled state and Fig 7 shows a detailed partial sectional view of the LCD display device 10 assembled with the case 21.

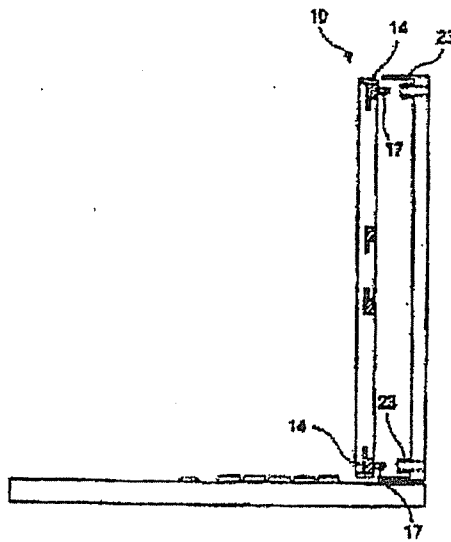


FIG. 6

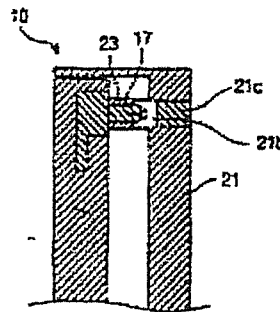


FIG. 7

In this embodiment the fixing is effected by snaps or latch fasteners 17 which engage with a stepped portion of the rib 23 in the case 21. The description reads thus:

' At the rear surface of the backlight device 14 of the LCD device 10, the fasteners 17 such as hooks made of plastics are formed and the case 21 has corresponding ribs 23.'

### ***The Claims***

21. Claims 1,30,34,40 and 44 are alleged to be independently valid. Claims 34-39, 44,46 and 47 are alleged to be infringed by the CCTV monitor and claims 34,35,38 39, 46 and 47 are alleged to be infringed by the VX 2000 monitor. Thus the only independently valid claims which are alleged to be infringed are 34 and 44- claim 44 being cited against the CCTV monitor only. Claims 1-33 and 45 are concerned with portable computers while claims 34 to 44, 46 and 47 are concerned with flat panel display devices. In other words the latter claims are concerned with monitors and similar devices which are not necessarily connected to portable computers. In this judgment, I need only consider claims 34 and 44.
22. In practice, interest has almost entirely focussed on claim 34 as proposed to be amended. I have set out this claim below, the words in italics being those whose addition is sought by amendment, those underlined being those proposed to be deleted.
23. Claim 34 (as broken down by counsel at trial) reads as follows:

A flat panel display device capable of being mounted to a housing *comprising a front housing part and a rear housing part, the flat panel display device not being fixed to the front housing part* the flat panel display device comprising:

A backlight unit including a first frame having a fastening part at a rear surface of the first frame;  
A flat panel display adjacent to the backlight unit; and  
A second frame

Wherein the flat panel display is between the first frame and the second frame, the first frame of the backlight unit capable of being *is* fixed to the housing through the fastening part at the rear surface of the first frame;  
*And the fastening part is behind the flat panel display.*

24. I have mentioned that certain other claims were in issue. However, in this judgment I need say no more about them than this:
  - (i) Claims 1 and 30 are alleged to be invalid and claim the same invention as claim 34 in the context of a portable computer. As regards validity, these claims therefore stand or fall with claim 34.
  - (ii) Dependent claim 40 is alleged to be independently valid. It excludes flat panel display devices which have elements, other than the display panel and the second frame which are visible from in front. It claims:



- (a) The flat panel display device according to any one of claims 34 to 39 and
- (b) wherein the flat panel display device only shows the flat panel display and the second frame when viewed from the viewing direction of the display.

However since the presence of a front housing is now an essential part of the invention, I cannot really envisage what this claim is intended to cover. In any event, the claim stands or falls with claim 34.

- (iii) Claim 44 is more important as it is alleged to be both independently valid and infringed (by the CCTV monitor). Furthermore, a number of amendments have been proposed to it. I make the following observations regarding this claim.
- (iv) First, unlike claim 34, claim 44 requires all the fastening parts at the rear surface of the first frame to be located behind the flat panel display (*'the or each fastening part is behind the flat panel display'*). This part of the claim was relied on by Mr Tappin to bolster his argument on the scope of antecedent claim 34 where the fixing parts of that claim (on which it is *not* dependent) are to be located. Had this claim been dependent on claim 34, its utility for Mr Tappin's purpose might have been relevant – but it is not so dependent.
- (v) Next, the flat panel display is to be *'fixed to a housing of a data processing device'*. Mr Meade said that since a monitor was not 'a data processing device' (unlike the computer itself); thus monitors automatically fell without its ambit. Finally, since the claim is not limited by a backlight, it covers the use of e.g. a PDP display module.

- 25 Before considering Tatung's objection to some of the amendments, I must first consider the skilled addressee of the Patent and the common general knowledge with which he is deemed to have been imbued at its priority date.

### ***The Skilled Addressee***

- 26 I was not addressed at any length by counsel on the law relating either to the skilled addressee or the common general knowledge. It was I think assumed (correctly) that I was familiar enough with these matters. For the record however, the principles which I have followed have been conveniently set out in Terrell on the Law of Patents, 15th Edn, §§ 6.25-6.28.
- 27 In the end, there seemed little difference between the parties as to the identity of the notional addressee. See *Talesfore* 5/1, §3 and *Brinkerhoff* 7/1, §7. The notional addressee would be a senior engineer that is, a person with a degree in industrial design or perhaps mechanical engineering having also some experience of product design in the field of flat screen displays. He would if necessary be able to consult with an engineer from an LCD module manufacturer concerning his requirements: see § 9 above. The addressee is thus seen as a hybrid: a notional person with suitable qualification both in the manufacturing and the design areas of the flat screen display industry. When I first read into this case, I felt that this might lead to a notional person with too high a qualification ('senior engineer'). However in the light of the evidence of the experts (who were both from the design side) and having heard Counsel, I shall leave the matter as I have just recorded it.

- 28 Mr Meade raised an associated point on this topic which is relevant to Mr Tappin's 'Dyson style mindset': see §9 above. He said that the skilled addressee should obviously be able to put the invention into effect without undue difficulty, otherwise the Patent would be bad for insufficiency<sup>11</sup>. Thus he said, at the priority date, the addressee should be assumed to have been able to lay hands on an LCD module with rear fastening capability - *if he wanted one*. And he might well want one as a result of considering an item of prior art—such as a device described in one of the citations in this case, so Mr Meade suggested. I agree. In this connection, there is in fact evidence that manufacturers of LCD modules could be persuaded by a designer to move the fixing points of the modules to (for example) the rear from the side, providing the quantities in demand were large enough: see Talesfore D2/193-196. Mr Brinkerhoff was of much the same view, believing that Fujitsu, a module manufacturer, could do 'just about anything they want': D3/359-361. It seems to boil down to a question of money in the end. I shall return to this when I come to validity but I consider that having the qualifications mentioned above; the persistent skilled man should be deemed to have been able to get the module he required for a job and not to be held meekly to accept what was going as a *fait accompli*.

### ***Common General Knowledge***

- 29 I have touched on this topic in an earlier section on introductory technical background. The experts have provided fairly uncontroversial accounts of the evolution of display systems in the 1990s and of the common general knowledge. This includes evidence relating to both Cathode Ray Tube (CRT) and Flat Panel Display (FPD) devices. Turning to FPDs, it was common ground that LCD modules with side fixings were articles of commerce at the priority date and how they were assembled and worked was also part of the common general knowledge. Similarly were the screws and other fixings with which they were mounted, the electrical connections and suchlike: see Talesfore D1/142 and Brinkerhoff D3/337. In fact, it was common ground that the pre-characterising part of unamended claim 34 was also common general knowledge.
- 30 With regard to common general knowledge relating to the design of products incorporating FPDs (typically notebook computers) at the priority date, I believe that the following passage from Mr Brinkerhoff's report (7/1/§§ 8.3, 8.4, 8.7) fairly summarises the position:

'A primary driving factor considered in display design was size. This was particularly so in notebook computers. A thin profile (depth of thickness) and narrow display perimeter (bezel) were highly desirable because they allowed maximisation of the display area in a minimum volume....Pushing the display area closer to the edge of the available space increased the usefulness of the appliance...The LCD module manufacturers continuously evolved their offerings to optimise size factors primarily for the notebook computer industry...Shrinking the overall package design was of prime interest to the designer.'

However, the design requirements for monitors and notebook computers were not quite the same. For example, the rear surface of monitors being invisible, did not have to be designed or 'styled' with aesthetic requirements in mind.

<sup>11</sup> Which was originally pleaded but not argued.

- 31 I must next return to the glass or LCD panel (as it is called in the narrative), since the state of the common general knowledge with regard to this is of crucial importance to one of the amendments. It was generally known that the LCD panel or glass (see §§ 8 and 10 above) was manufactured so as to have two zones: first, there is a central active zone which occupies the greater part of the glass and within which intelligible information could be displayed; this is the 'display area' and what one sees there is the 'display'. Secondly, there is an inactive continuous peripheral zone uniformly surrounding the display area but which had no display capability. Furthermore, modules were sold with their fixing or support frames in place. Workers in the field did not take the glass apart<sup>12</sup>. I am satisfied that it was also common general knowledge that in the modules of commerce there was always a small gap between the edge of the glass (i.e. adjacent the inactive periphery) and the support frame that surrounded it and that users had no idea of exactly how far the glass extended under the frame<sup>13</sup>. I can find no evidence that either the dimensions of the inactive periphery or that of the gap between the glass and the fixing or the support frame or that of the overlap of the support frame itself, all of which could affect the display area, were standard - or were even generally known<sup>14</sup>. Mr Brinkerhoff said, 'it [i.e. the gap] can vary considerably'<sup>15</sup> and Mr Talesfore said 'It will vary from one module to another'<sup>16</sup>. That I think, is as about much as the skilled man would have known about such matters.
- 32 It was well known that LCD panels were (as their name suggests) made of glass and that these parts of the modules were delicate. The skilled man would therefore want to use a mounting procedure that did not expose the glass to the risk of damage. Finally, as noted, the provision of mutually fastenable two-part housings for the module was standard practice at the time.

### *The Expert Witnesses*

- 33 Both witnesses came from the same town, Campbell, California and both were creative and experienced product designers. I will say at the outset that I found both experts to have been doing their best to assist the Court. Counsel accepted the integrity of the experts but mutually criticised each others' expert, as I shall presently describe.

#### *For the claimants: Mr Nicholas Talesfore*

Mr Talesfore is the proprietor of a design company (ID-3D Design) which has been in business since 1982 'carrying out both industrial design and mechanical design services in respect of over 200 products for various companies in the US.' This work covers everything from styling (i.e. developing the appearance of products having regard to aesthetic considerations) to 'mechanical' design which has primary regard to technical considerations inherent in the application in hand - such as the required disposition of internal components. He has a BSc in industrial design and prior to forming his own design company, from 1969 onwards had a wealth of varied experience as an industrial designer.

<sup>12</sup> Talesfore D2/184

<sup>13</sup> Illustrated in X3. And see Brinkerhoff 3/441 and Talesfore D2/183

<sup>14</sup> In any event, one is considering relatively small dimensions, matters of a few millimetres at most.

<sup>15</sup> D3/441

<sup>16</sup> A propos X3, D2/205-206

*For the defendants: Mr Mark Brinkerhoff*

Mr Brinkerhoff is also the head of an independent company which is engaged in product design and mechanical engineering. This company (Fusion Design) provides 'industrial design, mechanical engineering prototyping and production line development services to mechanically-based product companies'. He is a Bachelor of Science in Mechanical Engineering (1977) and after three years with Hewlett Packard as a manufacturing engineer involved in fabrication and assembly of products (1983-1986) he had a variety of experience in industry as a designer of products with particular interest I think, in the technical side of the field. A point stressed by Mr Tappin was that Mr Brinkerhoff had a number of patents to his name.

- 34 Both experts had some experience in integrating ( i.e. mounting) CRTs and FPDs (including those operating with small LCDs) into various products for various end uses.
- 35 Mr Tappin criticised Mr Brinkerhoff's evidence on the issue of obviousness (only) on two traditional grounds. First it was said that he was not only far too creative to be of concrete assistance to the court in assessing the issue of obviousness but that in evidence he actually envisaged what he and his colleagues would be likely to do at his company, Fusion Design, as a result of a commission. Secondly Mr Tappin said that some of his evidence was based on information he had acquired *after* the priority date; and so I would add, was Mr Talesfore's. In fact, both counsel also criticised each others' witnesses for their supposed lack of practical experience in the very subject matter of the Patent. As to the latter, I am frankly not surprised. As I have already said, by consent (and somewhat to my surprise), the parties agreed that the skilled man was a considerable specialist, a senior engineer. I say this because from time to time in this case, it seems to have been quite forgotten that this really is not a 'high technology' patent; it is a patent for mounting FPDs into display devices.
- 36 I reject these criticisms since ultimately they trespass on the now well-established view the courts should take to expert witnesses in patent cases: see *Technip France SA's Patent* [2004] RPC 919 at 926-928 per Jacob LJ<sup>17</sup>. As to evidence given as to what happened after the priority date, in my experience this often happens in such cases and it is indeed in theory wrong to entertain such evidence. But there must I think be some scope for flexibility. I doubt if the problem much matters if the technology has not materially changed since the priority date. And that I think, was the position here<sup>18</sup>

***Construction: General observations.***

- 37 The pervasive requirement for patent specifications to be construed by the skilled addressee in a purposive manner is so well known that I need not elaborate on it: see *Catnic Components Ltd v Hill & Smith Ltd* [1982] RPC 183 at 243. I have said that the

<sup>17</sup> 'My witness is more nerd-like than yours'.

<sup>18</sup> See for example *Talesfore D2/162*

Patent has been drafted in 'problem/solution' form. As one would expect, the practical advantage which LG promises has been clearly stated in the specification; that is, the elimination of unnecessary side space through re-positioning the fixing means from the side of the module to its rear. However none of the claims are limited by reference to this advantage. Claims do not of course have to be so limited but in a case like this, it would in my view be wrong to think that the skilled man would not have this one and only benefit well in mind when trying to understand the drawings and reading the narrative and claims. Therefore, in my judgement, any construction of the claims or of any of their integers which did not pay tribute to this one advantage, would be perverse.

38 I was not specifically addressed by counsel on the law of construction of patents. In any event, I believe, there was no difference of approach between counsel on this topic. For the avoidance of doubt as to my approach to construction, I should perhaps briefly record what I have done.

39 I begin with Article 69 EPC which provides as follows:

'The extent of protection conferred by a European patent ...shall be determined by the terms of the claim...Nevertheless, the description and drawings shall be used to interpret the claims.'

40 Then I have of course applied the Protocol on the Interpretation of this Article the terms of which are so well-known that I need not set them out. Next, I have heeded the observations of the higher courts in two recent cases in particular, the first being the guidance given by the House of Lords in *Kirin-Amgen Inc v Hoechst Marion Roussel Ltd* [2005] RPC 9. In that case, Lord Hoffmann said at § 32:

'Construction, whether of a patent or any other document, is of course not directly concerned with what the author meant to say. There is no window into the mind of the patentee....Construction is objective in the sense that it is concerned with what a reasonable person to whom the utterance was addressed would have understood the author to be using the words to mean. Notice however, that it is not, as is sometimes said, "the meaning of the words the author used", but rather what the notional addressee would have understood the author to mean by using those words.'

41 The language actually chosen is thus "of critical importance". I have also taken aboard Jacob LJ's concise summary of the correct approach to construction which was stated in *Technip France SA's Patent, supra* at §41 (less sub-paragraph (e) which was criticised by the House of Lords in *Amgen* (supra)). Further as Jacob LJ observed in *Technip*: 'Pedantry and patents are incompatible.'

## ***The Amendments***

### ***General considerations***

42 I have mentioned that LG sought to amend the Patent during the course of the proceedings. The possibility of doing this is catered for procedurally by the Patents Act 1977 ('the Act'), section 75 and substantively, by section 76(3) of the same Act ('Amendment of...patents not to include additional matter'). The pleadings and evidence



are contained in a separate bundle (Bundle 4) which was not referred to as such at the hearing. The parties' principal interest was directed to the amendments made to the last phrase proposed to be added to claim 34: '*and the fastening part is behind the flat panel display*'. Tatung objected to the proposed amendments on the ground of added matter and additionally, against the last phrase of claim 34 on the ground that the word '*behind*' lacked clarity.

- 43 As to the law, counsel were agreed that test for extension of disclosure was settled by Aldous J in *Bonzel v Intervention Ltd (No 3)* [1991] RPC 553 at 574 where he said:

" The decision on whether there was an extension of disclosure must be made on a comparison of the two documents read through the eyes of a skilled addressee. The task of the court is threefold:

- (a) To ascertain through the eyes of the skilled addressee what is disclosed, both explicitly and implicitly in the application,
- (b) To do the same in respect of the patent as granted,
- (c) To compare the two disclosures and decide whether any subject matter relevant to the invention has been added whether by deletion or addition.

The comparison is strict in the sense that subject matter will be added unless such matter is clearly and unambiguously disclosed in the application either explicitly or implicitly."

The test said Mr Meade, is no less rigorous than the traditional novelty test. That is I believe, the correct approach<sup>19</sup>.

- 44 As for the requirement for clarity in a proposed amendment, in addition to complying with section 76, the proposed amendments must I believe, continue to comply with the requirements of section 14(5) of the Act and in particular, that the claims should be clear and concise. Where an amendment has about it a vague or imprecise quality such as to create uncertainty in the mind of the skilled reader as to what it really means, it will be refused. Patents like injunctions, stop people doing things and those affected are therefore entitled to know with as much precision as the subject matter admits of, where the boundaries are.
- 45 I shall now proceed to consider the proposed amendments. But before so doing, I would just note that the proposed amendments all involve language not present in any original dependent claim. Moreover, the last integer to proposed claim 34, which as will be seen, is the most important amendment for LG to secure, makes use of language which is not present in the specification *at all* ; it relies on information to be gleaned from the drawings to support it. This is an unusual situation and one which I think, calls for particular scrutiny as regards the need for clarity.
- 46 I need only consider the amendments proposed to claim 34 since I was hardly addressed on any others. I shall go first to the pleadings. Tatung pleads that the proposed amendments add matter and have neither textual nor substantive support in the specification. There is also the allegation of lack of clarity. LG's statement in reply to Tatung's grounds of opposition is at 4/4. There are two paragraphs which are of particular

<sup>19</sup> See also Terrell §9.09\_9.9.16. and the decision of the Enlarged Board of Appeal G2/98 [2002] EPOR 167



appropriate engineering skill and experience would see in the photograph and that appears to me to be a matter for evidence. Where the evidence is contradictory the judge must decide. But the judge ought not in my opinion, to attempt to read or construe the photograph himself; he looks at photograph in determining which of the explanations given by the witnesses appears to be most worthy of acceptance.'

- 48 What Lord Reid said of photographs is in my view equally applicable to drawings in a patent specification when relevant explanatory narrative therein is laconic or even absent. In such cases, it is the expert evidence which counts.

*The proposed amendments*

- 49 The first of the proposed amendments is to the pre-characterising part of claim 34. This was referred to as the '**two part housing**' amendment. There are in fact two aspects to this: the first is the requirement for two housing 'parts', front and rear; the second is the requirement that the 'flat panel display device' should *not* be fixed to the front housing.
- 50 For the purposes of finding antecedent for the entirety of the amendment sought, Mr Tappin directed me to the passages relating to the construction of the Fig 2 laptop computer of the prior art (see above) coupled with the passage in the narrative describing the first embodiment of the invention which reads:

'Although not shown in Fig 5, the front case such as shown in Fig 2 is preferably assembled with the case 21 for covering the edges of the LCD device 10.' [p10, ll 3-4 ].

In relation to the prior art, that is Figs 1 and 2, the two parts are called rear and front 'cases' or 'frames' which in my view would be considered synonymous with the word 'housing' by the skilled reader. 'Housing' relates to the need to provide an enclosure (or case) which protects the relatively delicate LCD module within. The word was in fact in the claim from the start. Although the passage cited uses the word 'preferably' I think there is here sufficient antecedent to justify this part of the first proposed amendment.

51. Mr Meade argued that if this is so, the amendment reads only onto a laptop or notebook computer and not onto a stand-alone monitor. I disagree. So understood, 'housing' is apt in context to cover any two-part means for *securely mounting and protecting* the LCD module within. The word is being used in a general technical (but not cosmetic) sense. No doubt housings for the rear of laptop computers would be different in design to housings for the rear of monitors. But the latter could still be a 'housing' in my view.

52. I am however concerned with the proposal that the module should *not* be connected to the front housing. By the proposed amendment, this now becomes an essential feature of the claim. The antecedent disclosure referred to above does not *require* this to be so; it may or may not be so connected<sup>21</sup>. Moreover, this feature has nothing to do with the achievement of the object of the invention. In the circumstances, I do not believe the skilled addressee would find clear and unmistakable directions in the unamended specification not to fix the LCD module to the front housing. So that part of the first amendment is in my view, not allowable.

<sup>21</sup> See Brinkerhoff D3 394-395

- 53 Substantial time was taken with the second of the proposed major amendments: **'behind the flat panel display'**. It will be seen that this amendment is a limitation on the previous phrase *'...through the fastening part at the rear surface of the first frame..'* with which the claim originally ended. No problem arose over the latter phrase. The objection to the amendment was not only to added matter but also to the *uncertainty* which Mr Meade said would arise over just where 'behind' might be - or put another way, what might be the planar extent of 'the flat panel display': Was it the flat panel display panel (i.e. the glass) or just the display area of the panel.
54. Mr Tappin submitted that to the skilled man, fixing 'behind...the display' clearly means not only fixing behind the glass of the LCD module, but also behind its display area or possibly overlapping its inactive periphery. In response, Mr Meade first noted that in the Patent, the glass is actually called the 'panel' which is a term which could have been used in the proposed amendment but for some reason, was not used. So also in my view could the term 'display area', which is the phrase used in the narrative to denominate the lesser but more important area of the glass. Moreover, he noted that there is nothing in the Patent which makes it compulsory to put the fastening part exactly behind either the glass or any part of it. He suggested that to the skilled reader, a fair reading of the narrative simply requires the fastening part to be placed 'anywhere to the rear of the LCD module' i.e. behind the first frame, behind the inactive area of the glass or behind the display area. The promise of the invention is fulfilled he argued, in any of these locations-or he added, in any combination of spatial overlap. Mr Tappin's construction on the other hand requires *exclusion* of the situation where the fastening part is behind either the first frame or the inactive periphery of the glass - or the space in between.
55. Mr Meade also prays in aid the evidence that those using modules neither knew nor cared where the 'glass' area actually begins or ends underneath the support frame in the 'slabs' which they buy in: see § 31 above. In addition, the dimension between the glass and the support frame is of the order of millimetres: see also § 31 above. Whatever be the impact of the phrase upon the skilled reader, one thing is settled: that in this case, the skilled reader must find his clear and unambiguous directions for such *compulsory* 'fixing' geometry from the drawings alone-i.e. Figs 4A, 4B, 10 and 11, since there is not a word about the requirement of the proposed amendment in the body of the specification. In my judgement, Mr Meade is right. An examination of the drawings for this limitation as to location of the fastening part requires I think, more the eye of faith than the untutored eye of the man skilled in the art.
- 56 In the first place, none of these drawings are to scale- in patent specifications they seldom are anyway. Secondly, to justify an amendment having such precise meaning, what is visible to the eye of the skilled reader cannot in my view admit of such marginal possibilities as the fixing being 'just in' or being 'partly within' the glass area or a part thereof. That is not the *Bonzel* approach. Thirdly, since this has now become a compulsory limitation, Mr Tappin's construction of 'behind', must also chime with the solution to the problem allegedly solved by the invention; but so I believe, does Mr Meade's. So for that reason too, I cannot think that the skilled addressee would derive clear and unambiguous instruction from the drawings alone to appreciate the necessity for such fixing geometry. Let me elaborate a little on the foregoing.
- 57 I shall first consider the consequences of the drawings being schematic in character. Taking the first embodiment, it will be recalled that the screw holes 15 are said to be at

'each corner of the frame'. Obviously, this imprecise wording ill suits a precise location. In closing, Mr Tappin produced a transparent overlay of Fig 4A [X8] and invited me to place it over the back of Fig 4B (which is indeed the rear of Fig 4A). When this was done, the shaded area of the LCD panel *just touched* the two screw holes 15 at the top of the first frame 14g and missed them altogether at the bottom. Moreover it is quite arguable from mere inspection, that the fixing means in Figs 4C, 5 and 9 (and 10) are *not* behind the LCD panel/glass at all-though they *are* behind the LCD module as a whole. Furthermore, having regard to the peripheral space between the LCD module and the frame holding the sandwich together (see §31 above) and the inactive periphery of the glass, what lies behind the rear fixing position may be uncertain since such units are bought-in. It is true that some drawings do show geometry which supports Mr Tappin's 'behind the active part of the glass' location. Yet other drawings seem to go one way or the other. This does not satisfy the requirement for clear and unmistakable directions.

58 The expert evidence on this point (which according to Lord Reid in *van der Lely* (supra) is essential) did not throw much light on the situation. Mr Brinkerhoff considered that the fastenings disclosed in the Patent were without qualification, behind the *module*: D3/404-410. Thus, he clearly thought that the fixing points for the fourth embodiment (figures 9 and 10) were behind the *module*: D3/400-401. Mr Talesfore was uncertain that one could draw any firm conclusion on the basis of the drawings for the first embodiment: D2/150-151. Mr Brinkerhoff felt that in other cases one could not say for sure one way or the other where exactly the fastenings were to be placed: D3/387-388. Significantly, Mr Talesfore agreed that for the purpose of the invention, it made no difference where the fastenings were located, just so they were to the rear of the module.

59 There is a further point on the principal amendments. Tatung have also pleaded that:

'There is no or no sufficient disclosure ...of the combinations of features presented by the proposed amended independent claims and/or such combinations are nowhere in the specification stated to be part of the invention. Those features have been ....formed into new combinations for the first time in the context of the proposed amendments.'

60. In the light of my finding relating to the 'two part housing' amendment, I do not think this objection as such is made out. There is a connection in the narrative between figures 2 (prior art) and 5 (first embodiment).

*Conclusion on the amendments.*

61. The burden is upon LG to satisfy me that they have discharged the statutory requirements regarding their proposed amendments. In my judgment, they have not done so. I have no doubt that the last integer to claim 34 as proposed to be amended adds matter to the claim and is thus unallowable. As I have said, the test is a strict one.

62. But there is a further important reason for refusing to allow this amendment and that is that in the light of Mr Tappin's submissions, it would result in a claim that lacked clarity. This case has been dominated in both argument and cross-examination by the meaning of the word 'behind' in the proposed amendment-and its consequences in the rest of the case. None of this debate was contrived. If the resolution of the meaning of this phrase gave such trouble to the experienced counsel who argued it, pity the man skilled in the art grappling with the proper meaning of this word hereafter let alone a man of business. During this debate, I was at times reminded of some salutary words of Lawton LJ in

*Daikin Kogyo's Appn* [1974] RPC 559 at 581 *a propos* a similar requirement for clarity in the Patents Act 1949 :

"The opponents' claim 21 is so obscure as to its meaning that it is incapable of being 'a claim defining the scope of the invention claimed'. ....Claim 21 is set out in 21 words and two figures. Mr Blanco White on behalf of the opponents took about five hours over his submission as to its meaning. That is a very long time to take over what is intended to be a definition. Subsection (4) of [section 4] provides that 'claims...must be clear and succinct'. Claim 21 may have been succinct; it certainly was not clear.

I have been emboldened to speak out because it seems likely that I am in the same position of many in or connected with industry who have to read specifications as part of their working lives. Any of those people reading claim 21 would be likely to be as confused as I was as to its meaning. I inferred from what counsel said that often claims were drafted as they were...in order to save words. So be it; but if the result is unintelligible to those who have to read specifications, only lawyers with a taste for semantics will get either profit or pleasure from such drafting. Those who draft in this way should remind themselves of the statutory requirement that specifications *must* be clear."

63. Since Mr Tappin told me that the action would fail if the amendments were not allowed, I shall therefore have to dismiss the action. I asked Mr Meade whether in such circumstances, Tatung was interested in pursuing its counterclaim. They were not interested, he said. The counterclaim evidently had the effect as so often happens in patent infringement actions, of forcing the patentee either to amend or at least to 'feel the squeeze' on construction of the claims-or both.

***The remainder of the case on the hypothesis that the amendments are allowable***

64. In deference to the arguments which counsel directed to the issues of infringement and validity and in case the matter goes further and should I be found to have been wrong on the allowability of the amendments, I shall next deal with those further matters, albeit somewhat briefly. Before doing so however I must return to claim 34 in order to construe the meaning of some further terms of that claim.
- (i) '*A first frame*', '*a second frame*' and '*the rear surface of the first frame*' A number of frames are mentioned in the narrative and there was debate about the meaning of the word. Mr Tappin submitted that 'frame' ordinarily means a case or border partially enclosing something, thereby providing some support to it. Typically one would think of say, a picture frame. But context cannot be ignored in construing patents. Mr Tappin then submitted that in context it is not necessary for the first frame to be the sort of component the skilled man would have expected to find at the rear of an LCD module as supplied by the manufacturer. Mr Meade disagrees. He says that the first frame would be present on a unit bought from the manufacturer for whatever application.
  - (ii) Contextual confusion arises in this regard when one reads the Patent. In relation to the prior art device, the two-part 'housing' (which is a word not in fact used in the narrative) is referred to as the rear case or *frame* and the front case or *frame* (see § 10 Fig 2 items 121 and 123 respectively). Together the two cases or 'frames' are



called a 'display case'. This is not a usage in accordance with Mr Tappin's definition of 'frame'. The LCD module is also said to have a 'surrounding frame' 136. In Figs 4 A-C, which illustrate the first embodiment of the invention, the frame 16 is described as a 'supporting frame' and also as a 'second frame'. It is coupled to the first frame 14g which is preferably to be made of plastic. And is also part of the backlight unit 14. Also, the first frame itself can act as the supporting frame 16.

- (iii) Though lacking consistency, the position appears to be this. Mr Tappin's definition reads well in relation to the second frame. In relation to the first frame however some qualification is needed. According to claim 34, this frame must also have a *surface* which carries the 'fastening part'. The 'surface' is visible in the drawings: see 14g which via Fig 1 (p 9,119-12) is mounted 'on the inner surface of the display case 122'. In relation to Fig 5, the narrative speaks of the 'inner surface of the case 21' and of its outer 'surface'. In the second embodiment (see § 20 above) the position is clearer: 'at the rear surface of the backlight device 14<sup>22</sup> of the LCD device 10' where mounting holes 15a are formed. Thus the 'rear surface' of the first frame mentioned in claim 34, would in my judgment be understood by the skilled reader (i) to be a complete (though not necessarily attractive) covering of the rear of the LCD module – in the sense of the viewing direction and not just a peripheral 'picture frame' and (ii) more importantly, the first frame must not have any fixing means which demanded 'unnecessary side space for mounting the LCD device of the computer' (page 4, ll 6-8)
- (iv) *'The first frame of the backlight unit is fixed to the housing through the fastening part at the rear surface of the first frame'*. Mr Meade submitted that the proper construction of this phrase made fixing through the rear surface of the first frame the only such 'fixing' contemplated in the claim. Thus any *additional* fixing which was not effected at a fastening part on the rear surface of the first frame a fortiori by making use of a lateral fixing flange of some sort, took the unit outside the claim. To construe the claim otherwise he said, would make a nonsense of the alleged invention. Mr Tappin disagreed; these words do not forbid side flanges for fixing. He said that Mr Meade's submission demanded the notional (but compulsory) addition of the word 'only' to be present before the word 'through'; it was absent. The skilled man would thus appreciate that even if only *some* of the fixing was arranged at the 'rear surface', the claim would be satisfied. I reject Mr Tappin's submission since it ignores the requirement of purposive construction. The teaching of the Patent is clear. There should be no side fixing via the first frame; all the fixing is to take place at the *rear surface* of the first frame. That is the very purpose of the Patent. I would add that 'fastening part' must be a collective term allowing for a variety of fastening parts c.f. dependent claims 35-37.
- (v) *'behind the flat panel display'*. I have already considered this phrase in connection with the proposed amendment. On the assumption that the amendment is nevertheless allowable, the skilled man would give 'behind' its ordinary English meaning: i.e. 'anywhere to the rear of the of the flat panel display' –and certainly

<sup>22</sup> Called the 'backlight unit' 14 in relation to the first embodiment

not to the side. I have not yet formally construed 'display'. However, this is a word which has been used earlier in the claim- though it is not I think used anywhere in the body of the specification where, as noted, the phrase 'LCD panel' is used to identify what is adjacent the backlight. The panel has the two parts, active and inactive. The 'display' in my judgment would be understood to refer only to the active part of the glass, that is, where the visual presentation which the user sees, takes place.

- (vi) 'a data processing device' (claim 44). This must be understood in context. The relevant electrical connection to the flat screen module receives video signals from any source that causes the display elements (e.g. pixels) to react in a way which engenders a related image visible to a viewer. The device functions in this respect in just the same way as the CRT in a CRT monitor (or indeed in a television). None of these devices in my view could conceivably be called 'data processing device'. I appreciate that the flat screen display device receives signals which may emanate from a data processing device but they may equally emanate in practice from a CCTV camera.

### ***Infringement***

65. I have already identified the alleged infringing units in §2 above. Product descriptions with accompanying drawings of the CCTV monitor and of the VX 2000 monitor are to be found at 9/6 and 9/5 respectively. Further photographs with colour coding are at 9/9 and 9/8 respectively. A key for the latter has been provided at 2/22. Samples of the products in partial knock-down condition were available in court and I have also taken the opportunity of examining these samples at the conclusion of the trial. In what follows, the letters used refer to items shown in the photographs attached to the product descriptions.

66. *The VX 2000 monitor: how is it made up?*

67. This product is a 20" LCD desk-top monitor on a stand which in the words of the product description, 'is designed to receive video information signals from a PC or other computer and display the related image on the screen'. This monitor is alleged to infringe claim 34 of the Patent.

68. Viewed from the rear, D is what one would see attached to stand E. It is a smooth moulded plastic cover or rear housing covering the entire monitor. It has four holes at its rear which correspond to the fixing holes in the stand E. Component C, which may also be loosely described as an internal rear tray, carries a circuit board and electrical connections; it also has four fixing holes corresponding to those in components D and E. These holes are however threaded to engage screws. When assembled, component C lies within D. Four screws pass from the holes in the stand E through the holes in the back cover and are captured and secured in the threaded holes in component C. This is how the monitor is fixed securely to its stand.

69. Component B is a conventional LCD module and this is fitted into Component C. Its front, which is what the viewer sees, carries four through holes (two at the top and two at the bottom). These four through holes are formed in *side flanges* of the LCD module.



Component B is placed inside the tray C and is attached thereto via the four holes previously mentioned with screws which pass from the front engaging with corresponding threaded stand-offs formed in C.

70. Component A is the bezel. It is provided with sets of fixing points, eight to the side, four to the top and three to the bottom. Component A engages and is secured to component D with hooks and by means of screws.

***Does the VX 2000 infringe claim 34?***

71. The VX 2000 fulfils the pre-characterising part of claim 34, the front housing part being component A, the rear housing part being component D. The flat panel display device is not fixed to the front housing part – as was the general practice in the prior art in fact.
72. As for the ‘frames’, when I first considered infringement by the VX 2000 monitor I was at once struck by the fact that the alleged infringement seemed to suffer from the very vice which the Patent seeks to overcome viz. possessing ‘unnecessary sidespace for mounting the LCD device’ (p14, ll6-7). The second frame is part of component B and is item 22 on photograph V 12 (‘metal retainer’). It has four side protrusions having holes for fixing component B to the internal rear tray C with screws. Component C is therefore a prior art first frame and prior art ‘front mounting’ as the Patent calls it<sup>23</sup>. The rear tray cannot be construed as the first frame of the claim because it adds side width. There is no question (as was suggested by Mr Tappin) that this monitor ‘infringed badly’. There simply is no infringement.
73. Furthermore, if the ‘fastening part’ is constituted by the continuation of the four holes of the stand E into the threaded holes of component C, only two such holes are ‘behind’ the flat panel display, however ‘display’ may be construed. For this reason also there is no infringement. Furthermore, in truth, these screws fasten the stand to the housing; that is their purpose. It is not to fasten the module to the housing.

74. There is therefore no infringement of claim 34 by the VX 2000 monitor.

***The CCTV monitor: how is it made up?***

75. This is a 15” monitor for desktop or rack mounting and designed to receive video information signals from a CCTV camera and display the related image on the screen.
76. This product is alleged to infringe both claims 34 and 44. Though it is a flat panel display device, its module is not a ‘data processing device’ (see above). For that reason, I need not further consider infringement of claim 44.
77. Central to this product is a component C (which is a conventional LCD module). On either side of this module (in the ‘landscape sense’) are two detachable mounting brackets which are each attached to C by four horizontal screws. At their corners, the brackets also each incorporate two threaded holes for engagement in the vertical plane. These brackets are of appreciable width (some 3-4 mm). Component C lies within a rear housing (D) and is secured to it by means of screws which pass from the back of component D into

<sup>23</sup> Mr Talesfore accepted that this was so: D2 270/271

the threaded holes 3 in the brackets. Component B is located over the edge of component D from the front and is fixed to it with fixing tabs. Component A is a front bezel which overlies component B. Component A is indirectly fixed to D with Allen screws.

***The CCTV monitor :does it infringe claim 34?***

78. I shall first make two general observations. The screws in the holes 3 in the brackets contribute to holding the module to which they are attached to the rear housing. Visual examination shows that these brackets add even more sidespace than do the protrusions on the VX 2000 monitor - thus in my view defeating the very purpose of the invention.
79. The module (plus brackets) is not attached to the tray fastenings only at the rear but also by means of the screws at the sides. To fall within the claim, all the fastenings must be 'behind' the flat panel display and not to one or either side of it.
80. Where is the first frame? In my judgment, there is no first frame. Component D is the rear housing and component A (or A and B) is the front housing.
81. Therefore, in my judgment, the CCTV monitor does not infringe claim 34.

***Validity***

***Lack of Novelty: the Law***

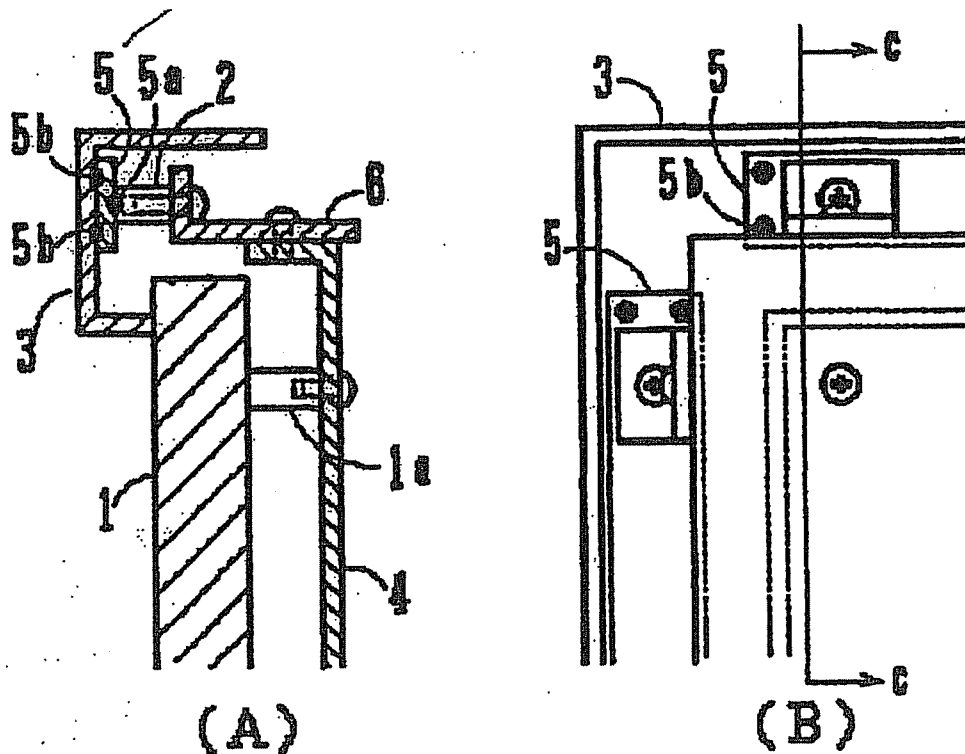
82. I was not specifically addressed by counsel on this topic. I have followed the classic guidance given by Sachs LJ in *General Tyre & Rubber Co v Firestone Tyre Co* [1972] RPC 4567 at 485<sup>24</sup>. For anticipation to occur the antecedent document must contain clear and unmistakable directions to do what the patentee has claimed in the claim under consideration.

***Lack of Novelty: Fujitsu '156 and '358 (July 1997).***

83. Save for one lesser point ('housing'), Mr Meade's argument on this part of his case covered both Fujitsu citations simultaneously. I shall therefore consider both together. § 0001 of Fujitsu '156 is entitled '*Field of Industrial Application*' and reads as follows:  
  

'The present invention relates to panel-type displays such as PDPs or LCDs which are used to display television pictures and the like. More particularly, the invention relates to mounting structures of panel-type displays which eliminate strains in the mounting portion'.
84. Though the technical problem addressed by this citation is obviously different to that of the Patent, the field of application is identical viz. the mounting of flat-panel display devices in products. I reproduce below Figs 1A and B of '156, Fig 1B being the third angle projection of Fig 1A.

<sup>24</sup> See also Terrell 15<sup>th</sup> Edn 7.14 – 7.16



85. I shall consider the citation in relation to claim 34. Item 1 is undoubtedly a 'flat panel display device' having 'for example' a PDP - driven display. However, in the light of the general introduction, the narrative is equally applicable to a panel operating by LCD and thus (unlike a PDP unit) it would apply to a device having a backlight. The experts were in agreement about this: Talesfore D2/241 and Brinkerhoff D3/352. The two-part housing is formed by the combination (and fixing) of items 3 ('front frame') and 4 ('rear plate') the former being attached to the latter via boss 2. The display module is not attached to the front housing. Mr Meade stressed that the word 'housing' in the Patent is used in an unqualified way; it need not be pleasing to look at for example. I agree, and in a stand alone monitor, one would not in fact expect the designer to be interested in the appearance of the rear since it is not generally visible to the viewer. Next, the integers of claim 34 which relate to two frames, the backlight unit (see above) and the flat panel display being between the two frames are visibly present in Fujitsu '136. Finally boss 1a is a fastening part mounted on the rear surface of the PDP/LCD module whereby it can be coupled to the rear housing with a screw. In my judgment it is also 'behind' the module as I have construed the word. Arguably, it is also 'behind' the panel/glass<sup>25</sup> as Mr Tappin would understand the word 'behind' and glass but not in clear terms behind the display.

86. LG take issue with the very entrée to the above statement of how Fujitsu works, since they say, it starts on a false assumption regarding the structure of the display module, item 1. Mr Tappin relies on the evidence (which I accept) that at the priority date, modules which

<sup>25</sup> There was evidence on this which I need not resolve: see Talesfore D/2244-249 and Brinkerhoff D3/351-354.

were ready made and bought-in would have had side flanges for fixing to the housing (see above). Mr Tappin refers to the preamble of the Patent to confirm this and to the propensity among skilled readers to experience a 'Dyson - type' mindset in this regard. Item 1 is just a conventional module of the day, he says. He also refers to the description of the prior art in Fujitsu itself: see § 002 Figs 3A and B which also show a rear surface boss (31a) where the same is found in Fig 1 but which he argues, would also be bound to have side-flanges for attachment.

87. I reject Mr Tappin's submission. On a fair reading of Fujitsu, there is simply no suggestion to use fastening means to the side(s) of the module. Moreover I do not believe that at the priority date in giving Fujitsu a fair reading, the skilled man would have been victim of the degree of stubborn technical prejudice which is implicit in the 'Dyson-style mindset' argument. Certainly, it was never said by the experts that custom-built modules could not be made at the priority date having unconventional fixing arrangements.
88. In my judgment, for the above reasons, the Fujitsu citations do not destroy the novelty of the Patent on Mr Tappin's construction of 'display'. On the other hand, Fujitsu clearly teaches rear mounting of the fixing means which is the only (and I think rather modest) contribution made by the Patent to the art. Thus the citation is relevant to the issue of obviousness - for which it is also pleaded since it makes use of the inventive concept of the Patent - see below

***Obviousness: the Law.***

89. I was not specifically addressed on this subject and again I did not detect dispute between the parties as to the principles to be applied. The burden is of course on Tatung to make good this objection. The approach to obviousness which I shall adopt is the fourfold, structured approach proposed by Oliver LJ in *Windsurfing International v Tabur Marine Ltd* [1985] RPC 59 at 73:

"...The first [step] is to identify the inventive concept embodied in the patent in suit. Thereafter, the court has to assume the mantle of the normally skilled but unimaginative addressee...at the priority date and to impute to him what was, at that date, common general knowledge of the art in question. The third step is to identify what if any, differences exist between the matter cited as being 'known or used' and the alleged invention. Finally, the court has to ask itself whether, viewed without any knowledge of the alleged invention, those differences constitute steps which would have been obvious to the skilled man or whether they require any degree of invention."

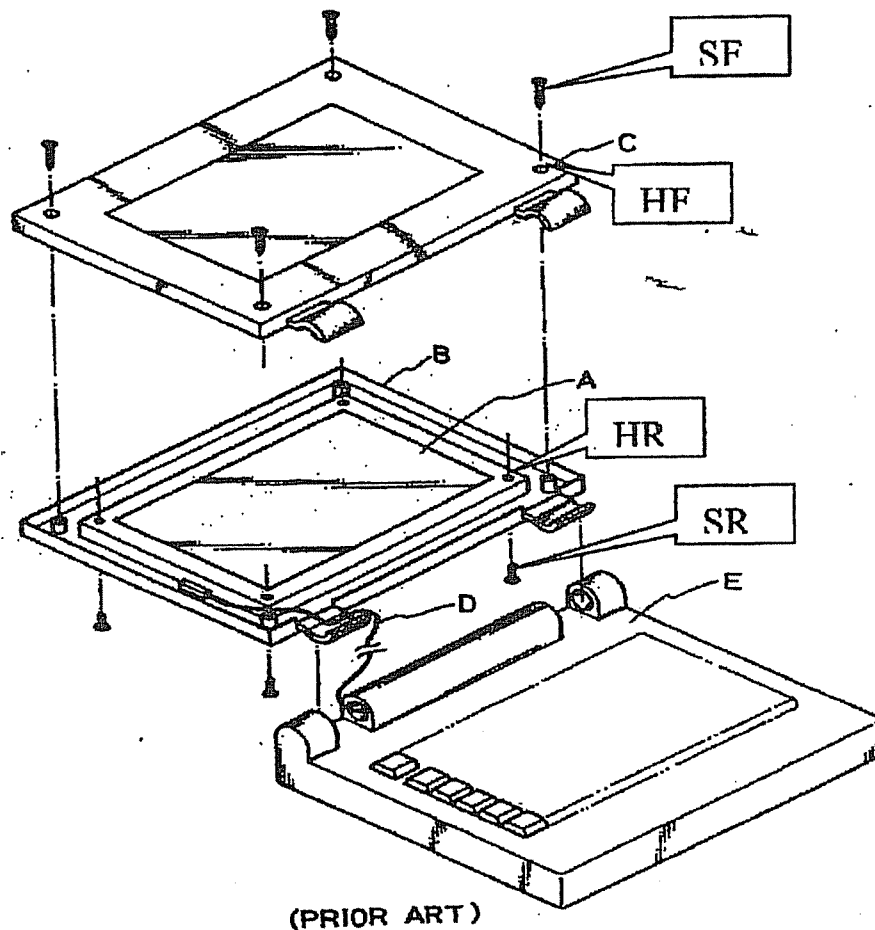
When the issue is one of obviousness, I have of course also borne in mind the numerous warnings against the dangers of *ex post facto* analysis and the temptations of hindsight. I was also reminded of the fact (which has been stressed by the Court of Appeal in recent times), that in adjudicating obviousness, it is above all the evidence of the properly qualified expert witness which matters.

90. The inventive concept of the proposal of the Patent has been mentioned several times. It is simply this: mounting an LCD module between two housings with the fastening points on the rear of the LCD module, so as to avoid the unnecessary use of 'sidespace'. I shall also state what in my view it is not: it is *not* the positioning of the fixing means on the surface of any particular part of the rear of the module. I have recorded Mr Tappin's objection to this on the basis that 'the rear' properly meant exclusively 'behind the active area of the

glass' i.e. the display. Once again, it is necessary for me only to consider the case in relation to claim 34.

*Ma (October 1996)*

91. This patent is concerned with mounting a flat panel device so that it can be repaired more easily. Unusually (but legitimately), Tatum rely more on the description and drawing of the prior art (Fig 1) than on the proposal of Ma itself. I reproduce Fig 1 below<sup>26</sup>.



92. I shall summarise the narrative relating to this drawing which is short (p1, ll 9-25) and has evidently been translated. Fig 1 shows a regular LCD module hinged to the mainframe E

<sup>26</sup> I have scanned this drawing from Mr Meade's skeleton of argument rather than from Ma as it conveniently shows by reference to 'SR, SF' etc where the screws (S) and holes (H) are by reference to front (F) entry and rear (R) entry.



of a notebook computer. This structure of LCD module comprises a bottom cover B, a display unit A mounted within the bottom cover B and a top cover C covered on the bottom cover over the 'display unit' A, and a lead wire D connected to the mainframe E. The display unit A is fastened to the bottom cover B by screws. The top cover C is fastened to the bottom cover by screws. The main disadvantage of this prior art proposal is its complicated mounting process, thereby rendering the repair work difficult.

93. The invention is illustrated by a 'regular LCD module' (my emphasis). Invoking again the 'Dyson-style mindset' of the addressee to commercial modules having side flanges, Mr Tappin suggested that modules with flanges or making use of generous sidespace would naturally come to the reader's mind and so be used. I have already considered and rejected this approach. That is not in fact what Ma shows. The constitution of Ma's module itself was however part of the common general knowledge (see above).

94. There seemed to be two factual issues between the parties on this citation. First, there was a dispute about what parts were attached to each other. Questions were asked of the experts as to what the skilled reader of Ma would make of the extended screw lines visible in the exploded diagram of Fig 1. In my view there is no need to assess this evidence if one gives the passage quoted (and Fig 1 itself) a fair and informed reading. Moreover, it will be recalled that the pre-characterising part of claim 34 was in any event part of the common general knowledge.

95. The more substantial argument related to whether the mounting of the display unit from behind really saved any side space. Sidespace saving is not of course claimed as such, the assumption being that this is automatically achieved through the claimed disposition of the elements of the device. In my judgment it is plain that Ma proposes no side flanges for fixing and that that is what the skilled man would appreciate; fixing is through the rear. In functional terms, it is difficult to see any functional difference of substance between Fig 1 of Ma and Fig 5 of the Patent. I accept that it is not clear that the fixing point is exactly at the surface of the first frame, and that as shown, the screw holes for fixing the LCD module to the rear housing are not wholly behind the glass or any part of it. The latter is in my view irrelevant (see above) and as to the former, Mr Talesfore accepted that the through screws could be replaced with blind bosses or fasteners at the back or by snap fastenings and that to do so would be a workshop modification: see D2/238-240. Ma has clearly disclosed the inventive principle of the Patent. In my judgement, the slight modification to Ma which would cause it to fall within claim 34, would not be inventive.

#### *Hashimoto (January 1992)*

96. This patent is concerned with the image display section of a miniature flat panel television set using an LCD. It is thus in a field somewhat apart from the Patent. Nonetheless, it does in my view disclose the same inventive concept. LG accepts for example that the patent discloses (figs 4 and 5 and col. 4 lines 17-25) that screw 21 is located behind the peripheral part of the frame –but, so Mr Tappin says, not behind any part of the glass. The rear fixing can in fact be anywhere behind the module: Brinkerhoff: D3/336-337. However, the fixing arrangements of the LCD module differ from that claimed in that Hashimoto's LCD module is fixed both to the rear and to the front housing. There is no evidence that there would be any technical difficulty to be overcome let alone ingenuity required within this teaching, in devising alternative ways of securely fixing the LCD



module within its front and rear housings *if required*, while still using rear fixing screws to attach the module at its rear surface to the rear housing. Claim 34 is thus not inventive over Hashimoto.

### ***The PixelVision Monitor***

97. This prior user, an example of which I have examined, makes use of a conventional LCD module within moulded plastic front and rear housings. The main debate concerning this item of prior art revolved around the function and status of a separate metal frame in which the module is peripherally fixed and rearwardly enclosed before being mounted in the two part housing. Mr Talesfore calls this a 'support frame'. The PixelVision monitor may best be appreciated from a series of photographs in 6/8. I gained the clear impression that Mr Meade was relying on this citation more as an infringement squeeze (for it is indeed very similar in construction to the VX 2000 monitor) than for a destructive attack on the Patent on the ground of obviousness.
98. The metal frame has five fixing locations for attachment to the rear housing by screws introduced from the rear. One such attachment is central and was said by Mr Talesfore to be there just to give rigidity to the stand. The four others are to the corners of the metal frame. The central fixing is accepted to be to the rear of the module and on its surface and behind the display; the others are not, being below and to the side of the rear surface of the module. This arrangement therefore takes the device outside claim 34 as I have construed it-but of course, falls within the claim in this respect on Mr Tappin's construction.
99. There is another feature which takes PixelVision outside the claim. The front housing is fastened to the metal frame (and thus to the module and not the rear housing) by eight screws around its periphery, two on each side<sup>27</sup>. The five rear screws then fix the metal frame, module and front housing into the rear housing.
100. There are thus two significant differences between the PixelVision mounting and that proposed in claim 34. When he first examined, PixelVision, Mr Talesfore did not like the peripheral fixing of the front housing: see footnote 27. He accepted as an alternative to his suggested remedy that it would have been obvious to fix the front housing to the rear housing as this was common general knowledge: see D1/137-141. However the experts did not give me the impression that there was any need, purpose or incentive in such a commercial monitor as this to ensure that all the back fixing points were to the rear of the surface of the module let alone behind the display. In my judgment the obviousness attack on claims 34 and 44 based on PixelVision fails.

### ***Conclusion***

101. The amendments to the Patent are refused. In view of Mr Tappin's concession, the action will be dismissed. Moreover, even if the amendments were permissible, there would be no infringement of the Patent as alleged. Though in this event Mr Meade expressed no further interest in the fate of his counterclaim, the latter evidently succeeds and in the

<sup>27</sup> Mr Talesfore found this to be both unattractive and expensive as a way of fitting the front housing to the unit and proposed some changes in his first report. This was the only change which he considered it desirable to make.

public interest at least, the Patent should be revoked. I shall hear counsel on the form of order to be made and on costs in due course.

# EXHIBIT 10



Neutral Citation Number: [2006] EWCA Civ 1774

Case No: A3/2006/0122

**IN THE SUPREME COURT OF JUDICATURE**  
**COURT OF APPEAL (CIVIL DIVISION)**  
**ON APPEAL FROM THE PATENTS COURT**  
**His Honour Judge Fysh QC**  
**PAT.NO 04022**

Royal Courts of Justice  
Strand, London, WC2A 2LL

Date: 20/12/2006

Before :

**LORD CHIEF JUSTICE OF ENGLAND & WALES**  
**LORD JUSTICE NEUBERGER**  
and  
**LORD JUSTICE LEVESON**

Between :

**LG PHILIPS LCD CO. LTD**  
(A Company existing under the laws of the Republic of  
Korea)  
- and -

**Claimant/**  
**Appellant**

(1) **Tatung (UK) Limited**  
(2) **ViewSonic Europe Limited**  
(3) **Number One Services Limited**

**Defendants/**  
**Respondents**

-----  
Mr Peter Prescott QC and Mr Benedict Bird (instructed by Messrs Linklaters) for the  
Appellant

Mr Richard Meade (instructed by Messrs Wragge & Co) for the Respondents

Hearing dates : 20<sup>th</sup> and 21<sup>st</sup> November 2006  
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**for handing down**  
**(subject to editorial corrections)**

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You should send any suggested amendments as a separate Word document.



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**Lord Justice Neuburger :**

### **Introduction**

1. This is an appeal against the decision of His Honour Judge Fysh QC, sitting in the Patents County Court, in an action involving a claim for patent infringement and a counterclaim for revocation of the patent in question. The patent concerned is UK Patent No. 2346464 ("the Patent"), entitled "Portable computer", and it is registered in the name of the appellant, LG Philips LCD Ltd. The Patent concerns a way of mounting flat panel display devices into housings, the combination being subsequently incorporated into portable computers and display monitors.
2. The appellant brought proceedings for infringement of the Patent against the three respondents, Tatung (UK) Ltd, ViewSonic Europe Ltd, and Number 1 Services Ltd ("the respondents"). The respondents denied infringement and counter-claimed for revocation of the Patent on the grounds of anticipation, obviousness and insufficiency. In order to meet part of the respondents' case for revocation, the appellant applied to amend the Patent.
3. The hearing of the action took place over six days in September 2005, and the Judge gave a very full judgment on 28 November 2005. Having explained the technical background and the specification of the Patent, the Judge then discussed, briefly and uncontroversially, the relevant common general knowledge, the reliability of the expert witnesses, and the proper approach to the interpretation of the Patent.
4. The Judge then explained the amendments which the appellant wished to make to the Patent. He then discussed the issues thereby raised, and decided that the amendments should not be allowed, on the ground that they constituted added matter, and, in the case of one of the amendments, on the further ground that it suffered from lack of clarity.
5. The Judge recorded that it was conceded by the appellant "that the action would fail if the amendments were not allowed". This concession meant that the Patent was admittedly invalid as the application to amend had failed, and the infringement action also necessarily failed. However, the Judge went on to consider, albeit relatively briefly, the outstanding issues, on the assumption that the amendments had been allowed. On that basis, he held that (a) none of the respondents had infringed the Patent, and (b) although he rejected the respondents' case on lack of novelty, he accepted it on the issue of obviousness. In those circumstances, he dismissed the infringement claim and granted the revocation sought on the counterclaim.
6. The appellant appeals against all the conclusions reached by the Judge, save, of course, his rejection of the respondents' case of lack of novelty. The respondents have cross-appealed. All references to sections in this judgment are to sections of the Patents Act 1977.

### **Technical matters and the general teaching of the Patent**

7. The Patent is concerned with mounting of a flat-panel display device within a two-part housing. The resulting unit may then be incorporated into products such as a laptop computer or free-standing computer monitor. Although there is more than one



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sort of display device, the teaching of the Patent is directed principally to Liquid Crystal Displays ("LCD"s) in laptop (or notebook) computers.

8. What one might call the monitor (or the hinged lid) of a laptop computer has a cover consisting of two parts, which form a display case. The first part is a (normally rectangular) front through which the display may be viewed: it is like a picture frame for the "picture" of the display. If one is viewing the display, the four sides of this frame have a normally flat and fairly narrow surface (or bezel) in roughly the same plane as, but a little proud of, the display surface. There is a corresponding rear part, which is solid. The front and rear are sometimes called housings or frames. The front housing is usually attached directly to the rear housing.
9. The LCD module, which forms the display, is mounted between the front and rear housings. An LCD module is a complex product with many layers. It looks like a wide flat box with a lip around the front to prevent the layers falling out. The functions of the various layers of the module are largely irrelevant for present purposes. LCD modules are made by various manufacturers, and the appropriate module for a particular application is purchased from such manufacturers. Indeed, from the point of view of the addressee of the Patent, the modules were just "slabs", and indeed were so called by employees of the company in which Mr Talesfore, the appellant's expert witness, worked.
10. There is one aspect of LCD modules which is important for present purposes, namely the fact that they contain at least one glass layer. This layer does not extend to the edge of the metal enclosure: there is a gap between its edge and the side wall of the enclosure, and that gap is of varying size. Further, the portion of the display, on which the image is actually shown, is not co-extensive with the whole of the glass layer. It is within that glass layer that the display area, that is what the viewer sees, is created. The glass can thus be treated as consisting of two areas, namely a (normally much) larger, central, area (the active area) wherein the display is created, and a lesser, peripheral, area surrounding it which is inactive and is normally located under the bezel of the front housing. However, there is no requirement that the inactive area is precisely co-extensive with the area of the glass under the bezel.
11. Mr Meade, who appears for the respondents, as he did below, summarised, in my view accurately, the basic teaching of the Patent as it appears from the specification, in the following terms:
  - (a) It asserts that the prior art common general knowledge method of mounting LCD modules was by the use of flanges attached to the modules at their edges.
  - (b) It asserts that the use of such flanges made an assembly of that kind unnecessarily wide (wasted side space). Wasted side space could be undesirable because e.g. in a notebook computer of fixed width it meant that less of the available space could be devoted to the display.

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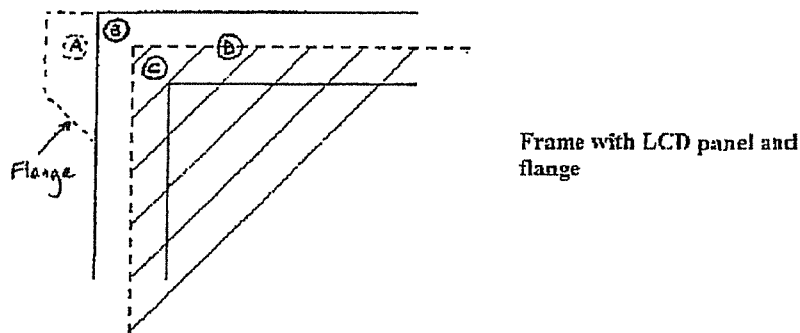
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- (c) It asserts that the problem of wasted side space could be avoided by omitting the flanges and moving fixing points to the rear ....”

12. In paragraph 15 of his judgment, the Judge put it this way, after going through and quoting short passages from the specification of the Patent:

“The object of the invention is therefore to maximise the *display area* of the *display case*. And how is it proposed that this should be done? Simply by re-positioning the mounting flanges at the side of the module *to the rear of the module*. [Counsel then appearing for the appellant] accepted that it was the *idea* of making this change which was at the heart of the invention.”

13. It is right to mention at this stage that Mr Peter Prescott QC who appeared for the appellant with Mr Benedict Bird on this appeal, contended that in that passage the Judge erred. They said that the teaching of the Patent did not involve *re-positioning* the side flanges *to the rear of the module*, but *replacing* the side flanges with *fastening parts* which are located *behind the glass*.
14. A drawing produced during the course of the hearing below and which appears to me to be helpful for the purposes of this appeal is this:



The solid right-angled lines denote the outside and inside of the front housing (i.e. the frame for the viewing display as explained above). The dashed lines denote the extent of the glass area which is shown hatched. The position marked “A” shows the prior art flange. The relevance of the other letters marked on the drawing will be apparent from what follows later in this judgment.

15. At this stage, I turn to claim 34 of the Patent upon which, as the Judge put it, “interest has almost entirely focussed”. If the appellant cannot succeed in making the amendments to claim 34 it seeks, then, as already foreshadowed, it accepts that its infringement claims must fail and that the Patent must be revoked.

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16. Claim 34 (as broken down by the Judge and by both counsel at trial) reads as follows (with the proposed deletions being bracketed and the proposed additions being in italics):

"A flat panel display device [capable of being] mounted to a housing *comprising a front housing part and a rear housing part, the flat panel display device not being fixed to the front housing,* part the flat panel display device comprising:

A back light unit including a first frame having a fastening part at a rear surface of the first frame;

A flat panel display adjacent to the backlight unit; and

A second frame

Wherein the flat panel display is between the first frame and the second frame, the first frame of the backlight unit [capable of being] *is fixed to the housing through the fastening part of the rear surface of the first frame; and the fastening part is behind the flat panel display."*

17. The Judge rejected the amendment involving the added words at the beginning of the claim ("the first amendment"), because the effect of the words "not being fixed to the front housing part" constituted added matter within the meaning of section 76. The Judge also rejected the proposed amendment at the end of the claim ("the second amendment") on the same ground, and on the further ground that it lacked clarity, contrary to the provisions of section 14(5), which, in paragraph (b), requires claims in patent applications to be "clear and concise".
18. I shall first consider the question of lack of clarity in relation to the second amendment, as it is sensible to consider its meaning before turning to the question of whether it adds matter. I shall then deal with the issue of added matter in relation to the two amendments. I shall then turn to the questions of infringement and obviousness.

#### **Lack of clarity: the second amendment**

19. The issue here is whether the Judge was right to refuse the second amendment on the ground that it suffered from a sufficient lack of clarity in relation to the location of the fastenings it claimed. Courts are rarely asked to consider the question of the clarity of the drafting of a patent in the context of section 14(5); it is normally a matter for an examiner in the Patent Office, at the time when the grant of a patent is under consideration. However, it was clearly something the Judge had to consider, once it was raised, in relation to the proposed amendments in this case.
20. The mere fact that a word, phrase or other provision in a patent claim is not wholly clear will not, by any means, automatically lead to the conclusion that the claim is objectionable. That would involve setting a far too high and unrealistic standard for drafting in any field; it would be particularly inappropriate to adopt such an approach

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to the drafting of patents, a notoriously difficult exercise in many cases. A claim needs to be as clear as the subject matter reasonably admits of.

21. In the present case, however, a sufficient degree of lack of clarity was established below, in relation to the second amendment. The Judge held that there were three possible interpretations of where a fastening had to be located pursuant to the wording of the second amendment, namely:
  - a) The fastening must be behind the "active area", as the Judge found;
  - b) The fastening must at least partially be behind the glass layer of the module, as the appellant contended;
  - c) The fastening must be behind the slab or module, as the respondents contended.
22. The Judge described the debate on the meaning of the second amendment, conducted in cross-examination and in legal argument, as "not contrived", and concluded that if it "gave such trouble to experienced counsel ..., pity the man skilled in the art ... let alone a man of business". Although he could reach a conclusion as to the meaning if he had to do so, he was of the view that it was too uncertain to satisfy section 14(5).
23. Having heard the matter debated between Mr Prescott and Mr Meade, I have come to a different conclusion. It is fair to say that, as the Judge observed, the drafting of the Patent left quite a lot to be desired, especially so far as consistency in the use of nomenclature in the specification was concerned. However, in this connection, I was impressed by two simple points made by Mr Prescott. First, a Patent Office examiner was not apparently concerned about lack of clarity arising from the terms "flat panel display" and "flat panel display device", as is demonstrated by the fact that claim 34 in its original form (which contained each expression twice) was allowed. Secondly, the word "behind" is a simple English word, the use of which should rarely lead to difficulties.
24. It seems to me that, in claim 34, in accordance with normal principles of interpretation, "the flat panel display" does not mean the same thing as "flat panel display device". At any rate as the Patent uses those words, they are different expressions, and the addressee would think that the latter is the device (ie the module or slab) which includes the former, for two reasons. First, that is the natural meaning of the two expressions; secondly, and even more importantly, in the original claim 34, "the flat panel display device" is said to "compris[e]", inter alia, a "flat panel display".
25. The flat panel display therefore cannot, as the respondents suggest, be the module or slab, in my view. The "active area" selected by the Judge as his preferred choice seems to me unlikely, as it is not readily identifiable on physical inspection of the module, unlike the glass area. The claimed invention is concerned with physically fixing the module, and is not, as Mr Meade has emphasised, directed to the method by which, or indeed in which, the module functions. Further, if, as the Judge thought, the "flat panel display" referred to in the second amendment consists only of the active area, it extends to part only of the glass, which seems to involve giving the expression a different meaning from that which it has in claim 34 in its original form. The "flat

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panel display device" has always been described in the claim as comprising, inter alia, a "flat panel display"; in that context, I consider the latter expression must extend to the whole of the glass and not just the active part.

26. As for the meaning of the word "behind" in the second amendment, the only possible uncertainty which has been raised is whether a fixing partly behind, and partly not behind, the flat panel device is claimed. In my opinion, a fixing partly behind is claimed. First, a fixing partly behind is "behind", albeit only partly. Secondly, if there is any inventiveness in the Patent, it would be on the basis that one could achieve a fixing behind the glass without breaking the glass: that would be as true in relation to a fixing partly behind as it would be for one wholly behind. I would add, without deciding the point, that, even if this were wrong, it may be that any uncertainty in this connection would be a "puzzle at the edge of the claim" which did not invalidate it.
27. In these circumstances, I would have allowed the appeal if it turned on the Judge's finding that the second amendment should be disallowed on the ground of lack of clarity. In my judgment, it is sufficiently clear and it applies to any fixing wholly or partially behind the glass of the module.

#### **Added matter: the first and second amendments**

##### *The law on added matter*

28. Section 75 provides that a patent may be amended following its grant. However section 76(3) imposes two restrictions on the power to amend:
 

"No amendment of the specification of a patent shall be allowed under section ... 75 if it—

  - (a) results in the specification disclosing additional matter, or
  - (b) extends the protection conferred by the patent."
29. The effect of section 76(1) is that "additional matter" is "matter extending beyond that disclosed" by the patent in its original form. The question which thus arises is whether the first and/or second amendments would result in the disclosure of what the 1977 Act calls "additional matter" but which is generally known as "added matter" (which is the expression used in the title of the section).
30. In *Southco Inc. —v- Dzus Fastener Europe Ltd* [1990] R.P.C. 587, Aldous J said this at 616:
 

"There is no definition in the Act of what is meant by the word "matter" and I believe that this word is wide enough to cover both structural features of the mechanism and inventive concepts... What the Act is seeking to prevent is a patentee altering his claims in such a way that they claim a different invention from that which is disclosed in the application. Thus, provided the invention in the amended claim is disclosed in the application when read as a whole, it will not offend against section 76 ...".



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31. Assistance is also to be derived from the observations of Pumfrey J in *re Palmaz's European Patents (UK)* [1999] RPC 47 at 70 and 71. At 70, he said that, following the decision of the Enlarged Board of Appeal in G 01/93 *Advanced Semiconductor Products* [1993] EPOR 97:

"It is the settled practice of the EPO ... to permit amendments ... to add references to prior art in the body of the specification, and to permit limitation of the claim by reference to the prior art so acknowledged. ... The acknowledged prior art will itself disclose the distinguishing feature, which is obviously unlikely to be disclosed in the patent in suit, but of course caution must be exercised where the patentee himself describes the prior art in terms which he proposes to use in the limitation of his claim."

32. Pumfrey J expanded on this on the following page, where he said this:

"If the specification discloses distinct sub-classes of the overall inventive concept, then it should be possible to amend down to one or other of those sub-classes, whether or not they are presented as inventively distinct in the patent before amendment. The difficulty comes when it is sought to take features which are only disclosed in a particular context and are not disclosed as having any inventive significance and introduce them into a claim deprived of that context. That is a process called 'intermediate generalisation'."

He then went on to allow two amendments on the basis that they did not "add matter not in substance disclosed in the specification". He then turned to a third amendment which he disallowed because it represented "the selection of a particular feature whose significance is nowhere disclosed, and its incorporation into the inventive concept shorn of its original context".

33. The law on added matter was considered again by the Enlarged Board of Appeal, in a case where the amendment involved a disclaimer narrowing the claim, in G 1/03 *PPG/Disclaimer* [2004] EPOR 331. The effect of that decision is that a specific disclaimer does not add matter (contrary to Article 123(2) of the European Patent Convention - equivalent to section 76), if it is inserted into a claim to avoid an "accidental" anticipation, but it does add matter if it is inserted to avoid a "non-accidental" anticipation - see part 2 of the decision. An accidental anticipation involves a "disclosure...belong[ing] to a remote technological field or [one whose] subject-matter suggested it would not help to solve the problem [addressed by the patent in question]". In other words, "the disclosure has to be completely irrelevant for assessing the inventive step" - see paragraph 37.
34. A little later in the same paragraph, the Enlarged Board identified an accidental anticipation in slightly different words, but to much the same effect, namely that "the disclosure in question must be so unrelated and remote that the person skilled in the art would never have taken it into consideration when working on the invention". In conclusion on this topic, in paragraph 44, the Enlarged Board said that :

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“When an anticipation is taken as accidental, this means that it appears from the outset that the anticipation has nothing to do with the invention. Only if that is established, can the disclaimer be allowed.”

*Added matter: the second amendment*

35. It appears clear from the teaching in the specification and drawings of the Patent that the fastenings should be behind the module. However, there is no express teaching that, as the second amendment states, the fastenings should be wholly or partly behind the glass, rather than being behind the remainder of the module – ie behind the bezel outside the glass area (at the points marked “C” or “D”, rather than point “B”, on the drawing reproduced above).
36. At trial, the appellant’s case was that this aspect was nonetheless apparent from all the drawings in the Patent of the preferred embodiments of the invention, namely figures 4 to 16. This was rejected by the Judge after a careful consideration of the drawings. Thus, he held that it was arguable that the fastenings shown on the schematic figures 4C and 5 (showing the first embodiment) and figures 9 and 10 (showing the fourth embodiment) were outside the glass area. He also considered one or two scaled off drawings of other figures of preferred embodiments, and he was not persuaded that they showed anything different.
37. In effect, he concluded that some of the drawings of the eight embodiments showed the fastenings under the glass whereas others did not. He said that the overall effect of the drawings was that, at least on the issue of whether the fastenings under the teaching of the Patent were to be in the area under the glass, or outside it, they did not “satisfy the requirement for clear and unmistakable directions”. In reaching this conclusion, he was assisted by expert evidence, which was right in principle (see *C van der Lely –v- Bamfords Ltd* [1963] RPC 61 at 71), and renders it very difficult for the appellant to challenge the conclusion arrived at. Although such a challenge was briefly raised in the skeleton argument prepared for this appeal by counsel previously acting for the appellant, it was not pursued by Mr Prescott.
38. Furthermore, as Mr Meade says, the location of the fastenings does not appear to matter for the purpose of the teaching of the Patent, so long as they do not protrude beyond the enclosure: provided that they do not protrude beyond the limits of the perimeter of the module, there is no waste of side space. This point has two consequences. First and most simply, it renders it particularly difficult for the appellant to support its case that, without any words anywhere in the Patent to support the notion, the claims required the location of the fastenings to be behind the glass, as opposed to elsewhere behind the module, would have been clear to the notional addressee.
39. Secondly, the restriction sought to be introduced to claim 34 by the second amendment could be said to amount to what has been called parametritis – ie the introduction of an arbitrary or artificial stipulation to give a claim an apparent inventiveness or distinctiveness, when it has none. The purpose of the second amendment is to avoid claiming items of prior art (namely prior disclosures where the fastenings are under the bezel but not under the glass – ie at the point marked “B” on

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the above drawing) and thus invalidating the Patent. I do not propose to consider whether the charge of parametritis is justified, or, indeed, whether it would be fatal to the second amendment. It was not dealt with by the Judge, and it is not necessary for us to deal with it.

40. Mr Prescott contends that the second amendment does not amount to added matter because the possibility of placing the fastenings under the glass was revealed by some of the drawings. Accordingly, he says, as the location of the fastenings claimed by the second amendment was revealed in some of the drawings accompanying the Patent, and as the effect of the second amendment is to narrow, rather than to widen, the breadth of claim 34, it cannot constitute added matter, and should therefore be allowed.
41. In the light of the principles extracted from the authorities referred to above, it appears to me that that submission must be rejected. The appellant seeks to extract an otherwise unidentified feature (nowhere suggested to have inventive significance) which appears from a drawing of one of the preferred embodiments of the invention, and to insert it into the claim, without taking any other features of that embodiment. What the appellant is thereby doing is what Pumfrey J said was not permitted in the *Palmar* case, namely to effect a so-called intermediate generalisation, that is, to extract a feature (which was neither remarked on in the specification nor of significance to the person skilled in the art) of one of the preferred embodiments of the invention and insert it into a claim, while ignoring the other features of that embodiment.
42. In his robust submissions, Mr Prescott suggested that the concept of intermediate generalisation was not to be found in the 1977 Act or in the EPC, and that it was therefore an unhelpful, even an illegitimate, concept to invoke. I do not accept that. The concept of intermediate generalisation is a well established species of added matter. As is clear from the decisions in the *Advanced Semiconductor* and *PRP* cases, and indeed from the judgment in the *Palmar* case, the Enlarged Board has developed the law on added matter in ways which can be said to involve superimposing a degree of policy over what had been perceived by the English courts as a relatively pure issue of principle.

*Added matter: the first amendment*

43. The effect of the first amendment is that the module should not be connected to the front housing. Before amendment, the claim was indifferent to the attachment of the module. One therefore turns to consider what disclosure or claim in the body of the specification is relied on by the appellant to support the contention that this first amendment would not add matter. What is relied on is as follows.
44. First, figure 2 is said on page 7 of the Patent to be a drawing which "shows a conventional mounting structure of the LCD device for a portable computer": in other words it is said to be part of the acknowledged prior art. The figure does not need to be reproduced in this judgment, because it is common ground that, in figure 2, the display device was indeed not fixed to the front housing. Secondly, on page 10, figure 5 (stated on page 7 to show "a mounting structure in accordance with a first embodiment in accordance with the present invention") is described as having a "front case such is shown in fig 2".

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45. It is said on behalf of the appellant that making the first amendment to claim 34 would not, contrary to the Judge's conclusion, involve adding any matter. This is because the reference to at least one embodiment of the invention being in accordance with figure 2 means that the notion that the display device was not to be fixed to the front housing, so far as the claimed invention was concerned, was already disclosed in the specification.
46. It seems to me that this argument will not do, and the Judge was right to reject it. All that the specification can be said to reveal on a fair reading is the following. First, that there was a disclosure (solely through the medium of a drawing) that the display device was not, or at least not necessarily, fixed to the front housing in the prior art. Secondly, that one embodiment of the claimed invention would or might (by reference to that drawing) also not have the display device fixed to the front housing. That combination of factors cannot, in my judgment, justify amending a claim to add the stipulation that the display device must not be so fixed for the purposes of that claim.
47. It seems to me that the first amendment either involves adding to claim 34 a new feature, which was not even remarked on anywhere in specification of the Patent, or it involves simply disclaiming products which have all the features of the claim save that they are fixed to the front housing.
48. If the first analysis is correct (as I think the Judge assumed), then the amendment involved attaching new practical and inventive importance to the feature it described. On that basis, the first amendment would fall foul of the rule against added matter as explained by Aldous J in the *Southco* case. This conclusion is reinforced by a couple of further factors. First, the amendment is arbitrary in the sense that it has nothing to do with the invention: the saving of side-space is not assisted in any way by whether the module is fixed to the housing. Secondly, the evidence before the Judge established that it was not, from a technical perspective, necessary for the display device, at least in the prior art, to be fixed to the housing.
49. If the second analysis is correct, then the first amendment was effectively a disclaimer included (according to Mr Meade and as accepted by Mr Prescott) for the purpose of avoiding claim 34 extending to an item of prior art, namely US Patent No. 5,119,204 (known as "Hashimoto"). On that basis it seems to me that the second amendment would constitute added matter in the light of the principles identified by the Enlarged Board in the passages cited above from the *PRP* case. Obviousness over Hashimoto cannot, in my opinion, fairly be characterised as "accidental". Hashimoto is a patent whose title is "Liquid Crystal Television Set Having Driving Circuit on Peripheral Portion and Method of Fabrication of Image Display Section". The title alone indicates that, although, as the Judge put it, "it is in a field somewhat apart from the Patent", it would be hopeless to try and suggest that this piece of prior art is in a "remote" or "unrelated" technological field. Further consideration of the specification of Hashimoto does nothing to undermine this view.

#### *Conclusion on added matter*

50. In these circumstances, I consider that the Judge was right, essentially for the reasons he gave, in disallowing the first and second amendments on the ground that they each fell foul of section 76.



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51. There is, however, an additional reason, raised in the respondents' notice, for concluding that the first and second amendments should be disallowed. It is that, even assuming that each amendment, taken on its own, would be unobjectionable, they should be disallowed because, taken together (as they should be), they constitute added matter. Mr Meade's point here is that, even if one could identify the features in each of the two amendments separately in the specification, there is no disclosure of the combination of those features. If the first amendment is merely a disclaimer, that probably takes matters no further, but if (as the Judge appears to have thought) it has an allegedly inventive quality, then it appears to me that this point is probably right, although it is unnecessary to decide it. It appears to me to be supported by the reasoning of Aldous J in the *Southco* case, and is, in a sense, the corollary of the impermissible "intermediate generalisation" discussed by Pumfrey J in the *Palmaz* case.
52. The Judge rejected this additional argument in the light of the passage I have quoted from page 10 of the Patent, which, as he said, linked figure 5 (showing a preferred embodiment) with figure 2 (showing the prior art). However, this analysis seems to overlook the point that neither figure 2 nor (as the Judge had found) figure 5 disclosed the feature embodied in the second ("behind the glass") amendment.
53. On the basis that the Judge was right to disallow both amendments, the appeal can be dismissed, on the ground that it is accepted by the appellant that this must follow if it failed in its attempt to amend the Patent. Like the Judge, however, I shall very briefly consider the issues of obviousness and infringement.

#### **Infringement**

54. The respondents were alleged to infringe the Patent by virtue of a CCTV monitor. They deny infringement on the basis of two main arguments. First, while the module is mounted with fastenings which are, albeit only just, under the glass, it is also mounted with fastenings through small brackets on the side of the module. Secondly, the module is mounted on two brackets. The first argument turns on whether (as Mr Meade contends) the only fastenings must be behind the glass, or whether (as Mr Prescott contends) it suffices that at least one fastening is behind the glass. The second argument turns on the meaning of the word "frame" in claim 34: does it extend, as Mr Prescott says, to metal supports on each of the vertical (as one normally looks at the display – ie normally the two shorter) sides of the module?
55. As a matter of ordinary English usage in the context of this patent, I am of the view that the appellant's case is wrong on the first argument, but right on the second. As the appellant needs to succeed on both arguments, I think the Judge was right to hold that there was no infringement, even if the Patent could be amended.
56. So far as the first argument is concerned, I can see how the appellant's case could succeed if one were construing the claim acontextually. Where one item is fixed or fastened to another by two separate methods, it can fairly be said to involve normal use of language to say it was "fixed" or "fastened" by each method. On that basis, a single rear fastening would result in infringement (provided it was behind the glass), even if there were other means of fastening on the side of the module. However, a claim in a patent is not, of course, to be construed out of its context. In that



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connection, it seems to me to be a perfectly legitimate reading of claim 34 that it should only apply to modules where the sole form of fastening is as there described.

57. The whole point of the claimed invention in this case is to avoid wasted side space by using rear fastenings, and this can and will only be achieved if there are no fastening means (like the flange marked "A" on the above drawing) on the side of the module. A construction which means that a claim extends to a product which has none of the benefit of the alleged invention is not of course an impossibility. (Hence the concept of "infringing badly", as Mr Prescott mentioned). However, where, as here, there is a perfectly good literal construction of the claim which means that it does not extend to such a product, and there has been no suggestion that this construction would have any other and unfavourable consequences for the patentee, it appears to me that the latter construction should be adopted.
58. As to the second argument, the word "frame" in the context of the Patent can have a number of somewhat different meanings. Two such meanings have been raised. It could be limited to a complete surrounding structure, such as a traditional picture frame. It could also mean a basic rigid supporting structure. The latter meaning seems to me to be the one which is meant in claim 36 in the instant case. First, it is the engineering meaning. Secondly, it is a wider meaning, and, since the nature of the frame is not of significance to the inventive concept, I would have thought that the person skilled in the art would not conclude that the patentee intended to limit his claim to no purpose, and, indeed, in such a way as would enable the teaching of the Patent to be employed without any of its claims being infringed.

#### **Obviousness**

59. The Judge concluded that, although the invention claimed by the Patent did not lack novelty, it was obvious over certain prior art, namely US Patent No. 5,570,267 (known as "Ma"), Hashimoto (see paragraph 51 above), and two Japanese patent applications 09-190156 and 09-171358 (together known as "Fujitsu").
60. As has been stated in a number of cases, obviousness is very much a question for the first instance tribunal: while it is not a finding of primary fact, it is an inference drawn from the primary facts and from the expert evidence. Accordingly, it is not a finding with which an appellate tribunal will interfere unless satisfied that the first instance tribunal erred in identifying or applying the relevant principles, misunderstood or overlooked essential primary facts or relevant expert evidence, or reached a conclusion which no reasonable tribunal could have reached. In other words, in some cases the issue of obviousness is one on which reasonable first instance tribunals could differ, and in such cases it is not for this court to interfere with the first instance decisions simply because it may think that it would have reached a different conclusion.
61. Appreciating this difficulty, Mr Prescott, in accordance with the appellant's skeleton argument, contended that there were errors of principle in the Judge's approach. The appellant's argument in this connection concentrated on three alleged errors by the Judge. The first was that the alleged inventive concept of the Patent involves positioning the rear fastening behind the glass, and not, as he thought, only behind the active area. Secondly, it is said that the Judge approached the prior art in the wrong way, which was identified in the appellant's skeleton argument as involving having

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“to consider the effect of the prior art on a skilled person attempting to address this problem”, namely the problem of how to avoid wasted space. The third alleged defect in the judgment is that the Judge had inappropriately relied on the simplicity of the claimed invention which unfairly coloured his view on obviousness.

62. In my view, each of these points should be rejected. As to the first complaint, if (as I have accepted) the Judge was wrong in rejecting the contention that the teaching of the Patent requires the rear fastenings to be behind the glass layer, he still concluded that this idea was obvious over each of the two items prior art, namely the two US patents, identified above.
63. The second complaint is that the Judge ignored the problem addressed by the Patent and failed to consider the effect of the prior art on the notional skilled person. I do not accept that. When considering Ma, the Judge referred, in paragraph 93, to the “mindset” of the addressee and rejected the submission on behalf of the appellant “that modules with flanges or making use of generous side space would naturally come to the reader’s mind and so be used”. He immediately went on to say that he rejected that approach for reasons he had already discussed, namely in paragraphs 9 and 28 of his judgment. It is not necessary to go into the details of the Judge’s findings about the “mindset” of the notional skilled person, as the relevant point is that the Judge did consider the mindset of the addressee.
64. It is true that the Judge did not, when considering Ma (or indeed Hashimoto or Fujitsu) specifically set out the nature of the technical problem which the appellant contends the Patent identified and then solved. However, it is fanciful to think that the Judge did not have this well in mind. He had already considered that issue in some detail in his judgment by the time he turned to the issue of obviousness, and I consider it unrealistic to think that he did not have that point in mind when he was discussing obviousness. It is also suggested that, because Ma, Hashimoto, and Fujitsu did not identify the problem or a solution to it, that somehow weakens the argument of obviousness. It seems to me that, on the contrary, it is of the essence of the obviousness case that none of these patents did identify the problem or solutions: otherwise, they would have been relied on for lack of novelty, not obviousness.
65. As to the contention that the Judge somehow prejudged the issue of obviousness by down-playing the inventiveness of the alleged disclosure of the Patent, I think there is nothing in that point either. It is true that he described the alleged contribution made by the Patent as “rather modest” in paragraph 88, but that is a fair description of the alleged contribution, and it plainly does not prevent it from being inventive. Assuming that there was an inventive contribution here, it seems to me that, once one has identified it, nobody could quarrel with the description of that contribution, in the context of inventions generally, as “modest”. In any event, there is no suggestion that the Judge somehow prejudged the issue of obviousness as this argument suggests.
66. Mr Prescott developed further arguments as to why the Judge was wrong to conclude the alleged invention of the Patent was obvious over the prior art relied on by the respondents. He had two general points, and a number of more specific points.
67. His first general point was that the Judge’s approach to obviousness was wrong in principle, in that it fell into the same trap as that identified by Lord Diplock in his well known deprecation, in *Technograph Printed Circuits Ltd –v- Mills & Rockley Ltd*

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[1972] RPC 346 at 362, of "the familiar 'step by step' course". In my view, the Judge was not guilty of any such error. He had expert evidence from qualified experts, which Nicholls LJ characterised as "primary evidence" on the issue of obviousness – see *Mölnycke AB –v- Procter & Gamble (No 5)* [1994] RPC 49 at 113. This evidence supported the Judge's conclusions on obviousness. As is inevitable with almost any structured cross-examination, particularly on a topic such as obviousness, the questions put to the appellant's expert, Mr Talesfore, could be characterised as involving a step by step approach. However, I do not think that the cross-examination can fairly be said to have suffered from the vices with which Lord Diplock was really concerned, namely wisdom of hindsight, and what he characterised as a "reconstruction *a posteriori*" by way of a series of steps each trivial in itself. Further, the Judge's conclusion was supported by the evidence of the respondents' expert, Mr Brinkerhoff.

68. The appellant's second general point was that, at least if the inventive concept of the Patent was placing the fastening behind the glass layer as opposed to behind the LCD module as a whole, the cited prior art did not disclose it, and that in any event the cited prior art did not state that side space is saved by the rear location of the fastening which it shows. I agree with Mr Meade that this point can be dealt with comparatively simply. First, as mentioned above, the notional addressee of the Patent, a person skilled in the art who is interested in its disclosure, would not care whether the fastening was behind the glass layer as opposed to behind the module as a whole but outside the glass layer. Secondly, the fact that the cited prior art does not state that side space was saved by locating the fastenings behind the slab or module is not at any rate of central relevance. Thirdly, given that the prior art did in fact have fastenings on the rear, the solution to the problem was already part of the state of the art: it is not as if the prior art involved rear fastenings to something other than modules, in which case the appellant would at least have been able to contend that it had translated the notion of rear fastenings from a different field.
69. Finally in relation to the prior art, there are one or two points of detail which are worth mentioning if only to underline the difficulty faced by the appellant in challenging the Judge's finding. The appellant's own expert, Mr Talesfore, said that Ma was "functionally equivalent" to figure 5 of the Patent, which, as mentioned above, represented a preferred embodiment of the alleged invention. In those circumstances, it is difficult to accept the appellant's criticism of the Judge's finding that there was no "functional difference" between Ma and Figure 5 of the Patent.
70. Additionally it is worth mentioning that Mr Talesfore agreed that changes to the specific fastenings shown by Ma so as to comply with the teachings of the Patent would have been no more than workshop modifications. Indeed, it seems to me that Mr Meade is probably right to say that the only thing which prevents Ma anticipating is that it did not expressly state that the display system is to be an LCD module.
71. So far as Hashimoto is concerned, it differed from the amended claim only in that the module was fixed to the front housing rather than somewhere at the rear. On that basis, it seems to me to be difficult to quarrel with the Judge's conclusion that that the difference was non-inventive, and that the patent was therefore obvious over Hashimoto. Indeed, Mr Talesfore accepted that Hashimoto taught that the fastenings could be placed "anywhere behind the module".

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72. It is right to mention that, having rejected the contention that two Japanese patents (known collectively as "Fujitsu") anticipated the Patent, the Judge did not go on expressly to consider whether the disclosure of the Patent was in any event obvious over Fujitsu (in addition to being obvious over Ma and Hashimoto). After handing down judgment, the point was raised with him, and he said, fairly and frankly, that the failure to deal with obviousness over Fujitsu was an error on his part. He then said that he considered that the disclosure of the Patent was obvious over Fujitsu, as well as over Ma and Hashimoto. However, he did not give any reasons for this.
73. In my judgment, it is pretty obvious why the Judge considered that Fujitsu, in addition to Ma and Hashimoto, invalidated the patent, as he had considered the disclosure of Fujitsu in some detail when rejecting the argument that it anticipated the Patent. At best from the appellant's point of view, the anticipation argument failed for two small reasons, the fact that it was not entirely clear whether Fujitsu taught that the boss, which received the screw fastening, was under the glass, and the fact that Fujitsu did not specifically refer to LCDs, but to other display systems. Those small differences serve to show the difficulty which anyone seeking to overturn the Judge's finding of obviousness over Fujitsu faced.
74. Finally, it is right to mention that Mr Prescott relied on one or two points of alleged distinction between the cited prior art and the Patent, which were not raised below in argument or evidence. While it would be wrong to say that raising on appeal new points of alleged distinction to defeat obviousness must always be doomed to failure, it must be a very unpromising course for a patentee to take. The points are unlikely to be convincing as they will not have been raised by the patentee's expert, and are unlikely to be fairly relied on as they will not have been put to the other party's expert: as mentioned, expert opinion is the "primary evidence" in obviousness cases. It is sufficient to say that this is not one of those exceptional cases where the new points on obviousness impressed me; indeed, in my view, they took matters no further.

#### Conclusion

75. For these reasons, I am of the view that:
- a) The first amendment did not want for clarity;
  - b) The first and second amendments would each constitute added matter;
  - c) The respondents would not have infringed the Patent as sought to be amended; and
  - d) The alleged invention disclosed by the Patent is obvious.

In the light of the latter three conclusions, it appears to me that the Judge was right to decide that the claim for infringement should be dismissed and the counterclaim for revocation should be allowed. I would therefore dismiss this appeal.

#### Lord Justice Leveson:

76. I agree.

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**Lord Phillips of Worth Matravers LCJ:**

77. I also agree.